Special Educational Needs:
Challenges in Learning and Instruction

Biennial Meeting of EARLI SIG 15
Special Educational Needs

Institute of Education
at University of Zurich, Switzerland,
the 25th and 26th of August 2014

University of Zurich[UZH]

Earli

Programme

of the

Biennial Meeting of the Special Interest Group Special Educational Needs (SIG 15)

of the European Association for Research on Learning and Instruction (EARLI)

Special Educational Needs: Challenges in Learning and Instruction

Zurich, Switzerland – August 25 - 26, 2014

Organising Committee:

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Dr. Martin Venetz, Interkantonale Hochschule für Heilpädagogik, Zürich

Welcome to the Biennial EARLI SIG 15 – Meeting at the University of Zurich

It is a great honour and pleasure for us to welcome you at the University of Zurich. The topic “Special Educational Need” has a long tradition at our university. In 1931, the first professorship for Special Educational Needs at university level in Europe was established in Zurich. Heinrich Hanselmann, a former teacher for deaf children and psychologist, was holding the chair for many years. His work had an important influence on the development of Special Education in Europe. Back then, Special Education was dominated by a medicinal perspective which emphasized individual factors as causes for disabilities. Heinrich Hanselmann, in contrast, highlighted the importance of environmental factors which influence the development of children and students. As a consequence, he claimed that support for students with SEN should focus on instruction, education and care in everyday life.

Today, these demands and a multi-causal view of disabilities are matters of course. However, important questions and issues about students with SEN and their learning processes remain unresolved and will require further negotiation on the level of research and theoretical reasoning. Therefore, it is the aim of our biennial meeting of EARLI SIG 15 to take further steps on this way. The discussions should provide further insight into learning and instruction of students with special educational needs, by taking the complex processes of student learning in the context of environmental factors and the multilevel structure of educational systems into account.

Two very well-known international researchers will hold keynote lectures and thereby shed light on such processes. In addition, researchers from 13 countries from all over the world will examine and discuss significant questions in symposia, paper- sessions and poster presentations.

At our conference we now wish you lively discussions, a profound analysis of scientific theories and empirical findings in the context of Special Educational Needs Research, and interesting exchanges with colleagues from all over the world.

We hope you will enjoy your stay here in Zurich.

Prof. Elisabeth Moser Opitz and Team

Table of Contents

A. Practical Guide

1. Introduction

Welcome to the Biennial Meeting of the Special Interest Group Special Educational Needs (SIG 15) of the European Association for Research on Learning and Instruction (EARLI).

Venue:

The conference will be held at the Main Building of the University of Zurich, floors KOL-F and KO2-F:

Address: University of Zurich
Main Building
Rämistrasse 71
8006 Zurich
Switzerland

Programme:

Check out the programme on page 20. Last-minute changes will be announced at the bulletin opposite to the Conference Office (Room KO2-F-153). The abstracts can be found from page 25 onwards.

Registration desk:

On Monday until 10am, the registration desk will be set up opposite to KOL-F-117, where the opening will take place. Conference bags, name tags and the dinner voucher (for Monday night) can be collected there. On Monday after 10am and Tuesday, registration is possible at the Conference Office (Room KO2-F-153).

Conference Office:

The Conference Office is located in Room KO2-F-153. There, any inquires can be dealt with in person. We also have a first aid kit to help you with small injuries or if you feel unwell. The Conference Office will be open daily from half an hour before the start of each day until half an hour after the end of each day. In addition, helpers wearing an orange lanyard are happy to help you.

Luggage-Storage and Lost-and-Found-Office:

You can safely store your luggage at the Conference Office.
All lost and found objects will be stored at the Conference Office, too (Room KO2-F-153).

Coffee/Tea breaks and farewell drinks:

All coffee breaks and the farewell drinks of Tuesday will be served in the Lichthof of the Mainbuilding. It is the big indoor yard of the University. Helpers (with orange lanyards) will be happy to show you the way to the Lichthof.

We would like to remind you that drinking and eating is not allowed in the rooms where the sessions and lectures take place. Furthermore, smoking is not allowed in any university building.

2. Lunches: Vouchers

Lunches during the conference:

In the envelope received upon registration, you find two vouchers for lunch (one for Monday, one for Tuesday). A voucher allows you to select any menu from the Mensa A or B and something to drink. To redeem your voucher, help yourself to the food and drink, and show your voucher at the counter. For coffee, please use your coffee-vouchers.

The lunch and coffee vouchers are sponsored by the Alumni Association of University of Zurich, ZUNIV. We thank them for their support.

- **Mensa A (Ground Floor)**

UZH Zentrum, Mainbuilding, Ground Floor
Warm dishes: 11am – 2pm
Pasta buffet /Salad buffet: 11am – 3pm
Open: 7.30am – 4pm

- **Mensa B (First Floor)**

UZH Zentrum, Mainbuilding, 1st Floor
Warm dishes: 11am – 2pm
Open: 11am – 3pm

On Monday at lunchtime, a member of staff is waiting for you at the entrance at Künstlergasse to show you the way to the mensa.

The Mensa A and B are located on the ground floors of the university. From Lichthof, take the steps down at the left end, walk down and you will arrive at Mensa B. Mensa A is one level below and serves salad and coffee, too.

- **Rondell (Kaffeebar): Coffee, sweets, snacks**

Main building, Floor KO2-E, opposite to the main entrance
Open: 8am – 4pm

3. Support

The event is supported by:

- Hochschulstiftung der Universität Zürich

- Swiss National Science Foundation

- Zurich Alumni Association

We thank all the donors for their support!

4. Session information

- **Place of Sessions:**

All sessions will take place in the main building of the University of Zurich (Rämistrasse 71, 8006 Zurich). For further information, please click here, for a more detailed view of level F, where all conference rooms for the presentations are located, choose „Stockwerke“ at the navigation column and than „Stockwerk F“. The poster session on Tuesday will take place in the „Lichthof“ hall.

- **Duration of Sessions:**

Paper Sessions: Every paper session lasts 90 minutes and consists of three papers. Each presentation lasts approximately 20 minutes followed by a question-and-answer session of 10 minutes.

Symposium: The symposium lasts 90 minutes, to be divided into three paper presentations with a few minutes for questions, conclusions by the discussant and an open discussion with the audience.

Poster: The poster session will take place at the „Lichthof“ hall on Tuesday from 11.00 until 12:45. The poster session will be organised as a walk-by exhibition, where the authors (or presenter) will be present (from 11.00 until 12.00) to discuss the inputs or questions from interested participants. The required poster size is A 0 and should best be displayed in portrait (long side standing up). It is recommended that the presenter has a number of copies of the poster (or the extended summary) to distribute to interested participants. On your arrival on Monday please deposit your poster at the registration desk or bring them to the conference office (when the registration desk is closed). We will fix the posters until Tuesday morning to the boards. All posters will be displayed until Tuesday 2 pm. If you want to take down your poster earlier, please inform the congress office before removing them yourself. You can fetch your poster directly from the board at the poster exhibition on Tuesday from 2 pm on.

- **Session Chairs:**

In the paper sessions, there will be a member of the conference committee acting as a chair, in order to open and close the sessions, to provide technical and organisational support, to ensure adherence to the time restrictions, and to lead the discussion. The symposia sessions will be chaired by the person mentioned in the specific submission of each symposium. However, there will also be a chair of the conference committee, but just to provide technical and organisational support. You will recognise the chairs by the orange lanyard of his or her name tag.

5. Venue

HOW TO REACH THE VENUE

- **By Plane**

From Zurich Airport the main station (“HB or Hauptbahnhof”) and city centre can be reached by train (leaving at least every 15 minutes) in 10 minutes or by taxi (for approximately 49 EUR / 60 CHF) in 20 minutes. Timetable: http://www.sbb.ch

- **By Tram**

From the “Hauptbahnhof” of Zurich (Zürich HB) the main University building can be reached on foot, by public transport or by taxi in 10-15 minutes.
Timetable: http://online.fahrplan.zvv.ch
Network plan: http://www.zvv.ch/en/routes-and-zones/city-zurich.html

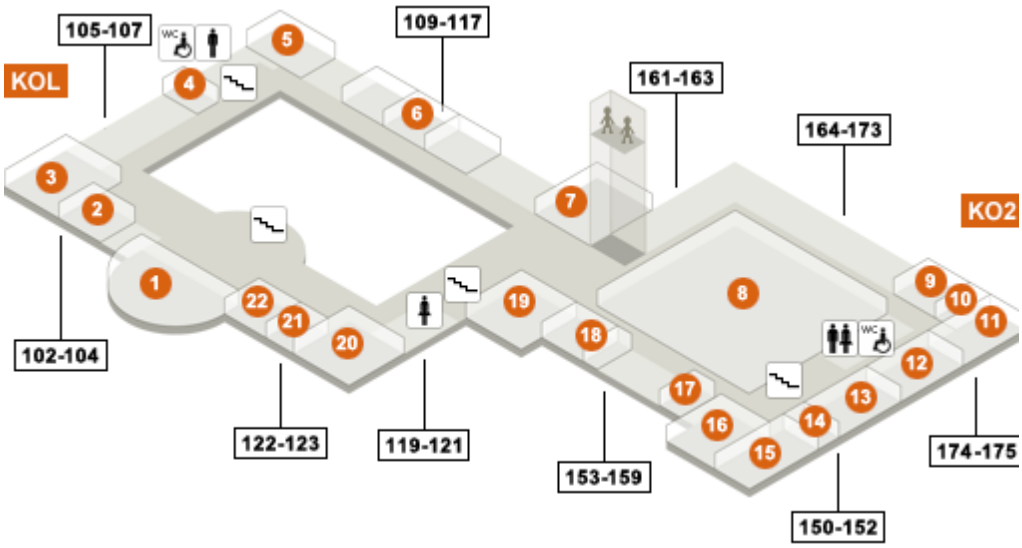
From "Bahnhofplatz" or "Hauptbahnhof":
Tram 10 (direction "Zürich Flughafen Fracht") to the stop "ETH/Universitätsspital"

From "Bahnhofstrasse/Hauptbahnhof":
Tram 6 (direction "Zoo") to the stop "ETH/Universitätsspital"

- **By Car**

Please note that in the vicinity of the University only a few parking spaces are available. We recommend using public transport. Information about car parks in the city centre can be found here: http://www.parkhaeuser.ch/Parkhausliste

FLOOR PLAN



7: KOL-F-117: Welcome, Keynotes, Symposia

11: KO2-F-174: Paper Session 1, 3, 5, SIG 15 business meeting

12: KO2-F-175: Paper Session 2, 4, 6, JURE workshop

16: KO2-F-153: Conference Office

Lichthof, Level E: Coffee Breaks, Farewell Drinks

6. Internet Access at the University Buildings

Free internet access is offered to the participants of the EARLI SIG 18 2012 Conference at the University of Zurich[1].

In order to use the internet, proceed as follows:

1. Start your web browser (Internet Explorer, Netscape, Mozilla, Firefox etc.).
2. Open any remote web page, e.g. www.google.com.
3. You will be redirected to the University GATE site.
4. Log-in to the Internet using your username and password.
5. Accept the certificate permanently and ignore the following warning.
6. You now have Internet access. Repeat the above steps if you lose your connection.

You can also join the Eduroam-Network using the access-information from your home-university.

Should you still have any problems accessing the Internet, please consult the Conference Office (Room KO2-F-153).

1 The temporal account has to be activated before the conference and cannot be created at the days of the conference. The registrants had been informed about this by the committee via email on the 12th of August.

7. Conference Dinner

The conference dinner will take place in an old traditional building and nice garden on Monday August 25, 2014 as from 7pm.

The location:
Wirtschaft Neumarkt
Neumarkt 5
8001 Zürich
+41 44 252 79 39
http://wirtschaft-neumarkt.ch/

How to get to the dinner venue:

From the main buildung of university:

- A helper is happy to guide you to the Dinner venue from Lichthof (where the coffees/lunch were served), leaving at 6:45pm. Meeting point: Main entrance of the main building of the University (Rämistrasse 71).
- Walk down Künstlergasse; at the bus stop Neumarkt, cross the road and continue straight into the pedestrian area. After approximately 30 meters, you will find the Restaurant Neumarkt to your right.

From the main railway station (Zürich HB):

- Take Bus Nr.31 (direction *Hegibachplatz*) or Tram Nr. 3 (direction *Klusplatz*) to *Neumarkt*. From there, turn into the street „Neumarkt“.

Those who subscribed for dinner at the registration please **do not forget to bring your dinner voucher** (which you received upon registration). For those who did not subscribe for dinner but still want to join, there is a limited number of extra vouchers for 45 EUR / 55 CHF available. For more information, consult at the registration desk the “on-site corner” until 10am on Monday.

8. Sightseeing in Zurich

- We recommend downloading the City Guide Zurich App. It is available for Apple and Android devices and offers you an easy way to find your way around the city, find sights, restaurants, hotels, etc.
- “Zurich on foot – city walks” provides you with maps for some interesting walks, for example, a walk through the University District, which offers a nice walk around the area of campi of higher education and tells you interesting stories about famous people and events that took place here.

  For more information, go to:

  https://www.stadt-zuerich.ch/ted/de/index/taz/mobilitaet/english_documents.secure.html - zurich_on_foot_-citywalks

  Here you can download the walking tour through the University District as a pdf.

9. Important Addresses

Conference Venue

University of Zurich
Main Building
Floors KOL-F and KO2-F
Rämistrasse 71
8006 Zurich
Switzerland

Tourist Information Office

Zurich Tourism Tourist Service
At the main railway station
8021 Zurich
Tel. +41 44 215 40 00
Fax +41 44 215 40 44
information@zuerich.com
Mon-Sat: 8am – 8.30pm
Sun: 8.30am – 6.30pm

Taxis

You can find many taxis in front of the main railway station.

Taxi 444:	+41 44 444 44 44
Alpha Taxi:	+41 44 777 77 77
Züritaxi 7x2 AG:	+41 44 222 22 22

Police Station

Stadtpolizei Zürich
Bahnhofquai 3
8001 Zurich
+ 41 44 411 71 17

In Case of Emergency

Ambulance:	144
Police:	117
Fire station:	118

Medical Help

Permanence Main Railway Station Zurich
Bahnhofsplatz 15, 8001 Zurich / Next to the pharmacy
+41 215 44 44

Hospital Help

Universitätsspital Zürich
Rämistrasse 100, 8091 Zurich
+41 44 255 11 11
Open: 7am – 10pm

10. Restaurants

Comparatively low priced restaurants

Swiss Food

Zeughauskeller Restaurant

Bahnhofstrasse 28a, 8001 Zurich

+41 44 220 15 15

Restaurant Bauschänzli

Stadthausquai 2, 8001 Zurich

+41 44 212 49 19

Rheinfelder Bierhalle

Niederdorfstrasse 76, 8001, Zurich

+41 44 251 54 64

Organic Wholemeal Food

Schlauch

Münstergasse 20, 8001 Zurich

+41 44 251 23 04

Restaurant Hermanseck

Birmensdorferstrasse 58, 8004 Zurich

+41 44 241 28 20

Swiss and International Food

Zentrum Karl der Grosse

Kirchgasse 14, 8001 Zurich

+41 44 266 85 00

Italian Food

Restaurant Commihalle

Stampfenbachstrasse 8, 8001 Zurich

+41 44 250 59 60

Restaurant Commercio

Mühlebachstrasse 2, 8008 Zurich

+41 44 250 59 30

Santa Lucia

Luisenstrasse 31, 8005 Zurich

+41 44 272 58 93

Spaghetti Factory

Schifflände 6, 8001 Zurich

+41 44 252 26 66

Comparatively middle priced restaurants

Swiss Food

Restaurant zum Grünen Glas

Untere Zäune 15, 8001 Zurich
+41 44 251 65 04

Restaurant und Zunftstube Weisser Wind

Oberdorfstrasse 20, 8001 Zurich
+41 44 251 18 45

Wirtschaft Neumarkt

Neumarkt 5, 8001 Zurich
+41 44 252 79 39

Swiss & International Food

Restaurant Rosengarten

Gemeindestrasse 60, 8032 Zurich,
+41 44 251 37 36

Restaurant Bahnhof Stadelhofen

Goethestrasse 24, 8001 Zurich
+41 44 250 59 20

European Cuisine

Restaurant Reithalle

Gessner-Allee 8, 8001 Zurich
+41 44 212 07 66

Italian Food

Ristorante Toscano im Niederdorf

Schmidgasse 3, 8001 Zurich
+41 44 261 54 50

Spanish Food

Restaurant Bodega Espanola

Münstergasse 15, 8001 Zurich
+41 44 251 2310

Mediterranen Food

Restaurant Mère Catherine

Nägelihof 3, 8001 Zurich
+41 44 250 59 40

Vegetarian Food

tibits Zürich

Seefeldstrasse 2, 8008 Zurich
+41 44 260 32 22

Haus Hiltl

Sihlstrasse 28, 8001 Zurich
+41 44 227 70 00

High priced restaurants

Swiss Food

Restaurant Oepfelchammer

Rindermarkt 12, 8001 Zurich
+41 44 251 23 36

Zunfthaus zur Waag

Münsterhof 8, 8001 Zurich
+41 44 216 99 66

Restaurant Kronenhalle

Rämistrasse 4, 8001 Zurich
+41 44 262 99 00

Mediterranean & Swiss Food

Restaurant tre fratelli

Nordstrasse 182, 8037 Zurich
+41 44 363 33 03

Swiss & French Food

Restaurant Bar Blaue Ente

Mühle Tiefenbrunnen
Seefeldstrasse 223, 8008 Zurich
+41 44 388 68 40

European Cuisine & Mediterranean

Restaurant Camino

Freischützgasse 4, 8004 Zurich
+41 44 240 21 21

International Food

Romantik Hotel Florhof

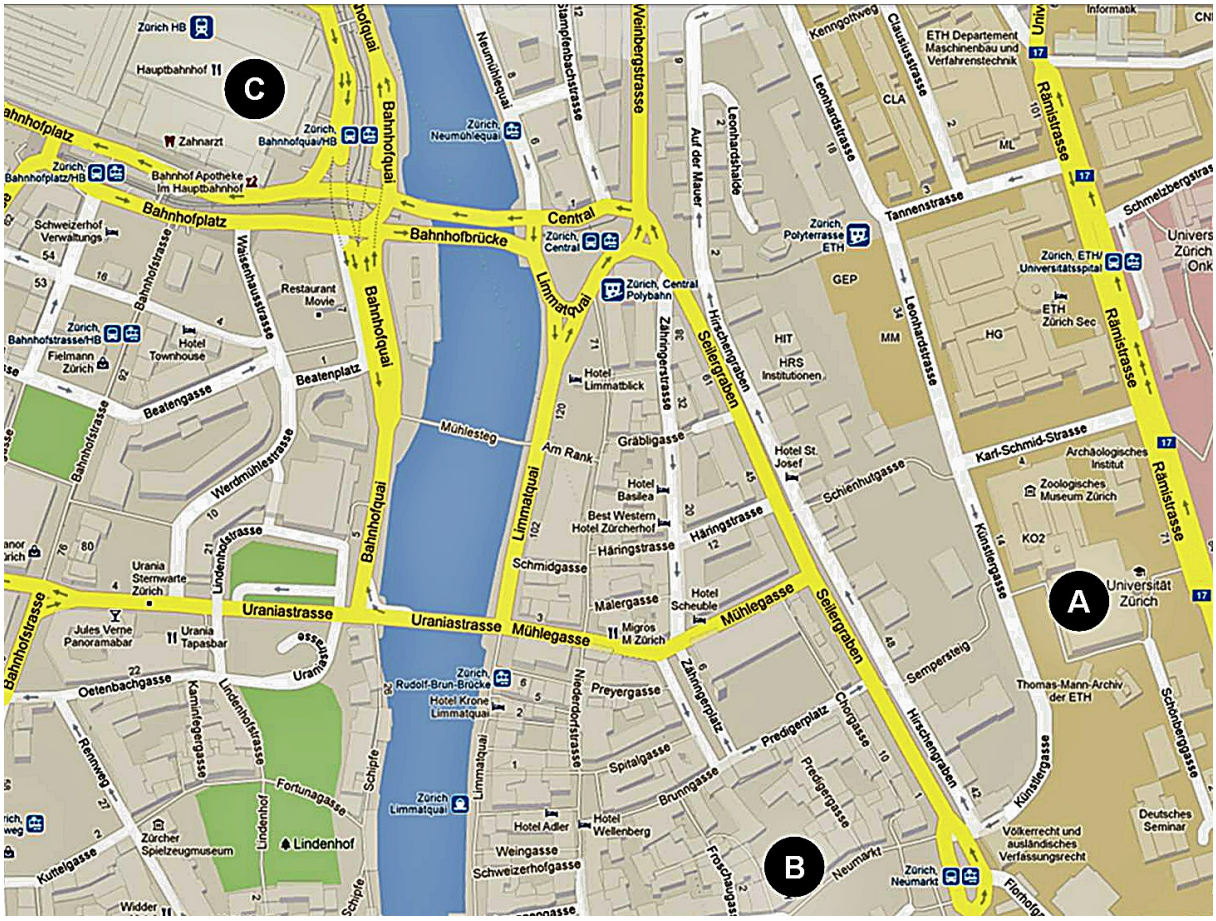
Florhofgasse 4, 8001 Zurich
+41 44 250 26 26

Spanish Food

Restaurant Rechberg

Chorgasse 20, 8001 Zurich
+41 44 251 17 60

11. Map of Zurich



A	Venue: Main building of University of Zurich
B	Conference dinner: Restaurant Neumarkt
C	Main railway station + Tourist office in main hall

12. Local Public Transport

Tickets have to be **purchased before getting on** the tram, bus or urban railway. There is no possibility to buy tickets once embarked on the public transport.
Tickets can be purchased at the ticket machines found at every stop, at the VBZ-Ticket corners or at various kiosks. Tickets are valid for tram, bus and urban railway (if in the respectable zone).

Single ticket	*Valid hrs.*	*Adults*
Short-distance ticket*	1/2	CHF 2.60
1-2 zones	1	CHF 4.20

Day pass	*Valid hrs*	*Adults*
1-2 zones	24	CHF 8.40

If you travel more frequently in the same zones, you can save up to 10% with a multiple-journey ticket or a multiple day pass:

Multiple Single Pass (6 single journeys on one ticket)

	Valid hrs	*Adults*
Short-distance ticket*	1/2	CHF 15.60
1-2 zones	1	CHF 22.60

Multiple Day Pass (6 freely selectable days of travel on one ticket)

	Valid hrs	*Adults*
1-2 zones	24	CHF 45.20

* Valid for short journeys in the cities of Zurich. Areas of coverage are specified on automatic ticket machines.

For your stay in Zurich, there is the possibility to buy the Zürich card at a price of 24 CHF (24 hours) or 48 CHF (72 hours). This price includes travelling by tram, bus, train, boat and funicular railways, as well as numerous benefits, such as free entry to most museums, 10% discount in certain shops, on movie theatres, opera house, zoo, spa as well as tours of Zürich Tourism. Check out http://www.zuerich.com/en/Visitor/zuerich-card/zurich-card-info.html for more information.

Notes

B. Conference Programme – Overview

Monday, 25th August 2014

Time	Description
8:30 - 9:30	Registration
9:30 - 11:00	Welcome & Keynote Speech by Professor Nancy Jordan, Delaware (USA)
11:00 - 11:30	*Coffee/Tea Break*
11:30 - 13:00	Parallel Session I: Symposium 1, Paper Sessions 1&2
13:00 - 14:00	*Lunch Break*
14:00 - 15:30	Parallel Session II: Symposium 2, Paper Session 3
15:30 - 16:00	*Coffee/Tea Break*
16:00 - 17:30	JURE Workshop
19:00 - 22:00	*Conference Dinner*

Tuesday, 26th August 2014

Time	Description
8:30 - 10:00	Parallel Session III: Symposium 3, Paper Session 4
10:00 - 10:45	SIG 15 Business Meeting
10:45 - 11:15	*Coffee/Tea Break*
11:15 - 12:45	Poster session (partly during coffee break and lunch)
12:00 - 12:45	*Lunch Break*
12:45 - 14:30	Parallel Session IV: Symposium 4, Paper Sessions 5&6
14:30 - 15:30	Keynote Speech by Professor Peter de Jong, Amsterdam (NL)
15:30 - 16:30	*Farewell Drinks*

C. Monday, 25th August 2014

Time	Description
8:30 - 9:30	Registration
9:30 - 11:00	Welcoming & Keynote Speech by Professor Nancy Jordan, Delaware (USA) (Room: KOL-F-117)
11:00 - 11:30	*Coffee/Tea Break* (Lichthof)
11:30 - 13:00	Parallel Session I • Symposium 1: Inclusive schooling: What do longitudinal and contextual comparative studies reveal about students' learning? (Room: KOL-F-117) 1. Consequences of school segregation: Results of a longitudinal study 2. Self-reported loneliness in students with and without special educational needs 3. Teachers' evaluations of the social participation of students with and without special educational needs: An empirical study in inclusive and regular classrooms 4. Special educational needs and regular students' activity during mathematical problem solving in regular and special education classrooms • Paper Session 1: (Room: KO2-F-174) 1. Developing the concept of perimeter and area in students with learning disabilities 2. The contribution of latent profile analysis to the debate on criteria for learning disabilities 3. The impact of reading and mathematical difficulties on young adults' situation in life five years after compulsory education • Paper Session 2: (Room: KO2-F-175) 1. Fostering mathematical competencies via individualised learning support in kindergarten 2. Modeling and measuring of action-related mathematical competence of kindergarten teachers 3. Effectiveness of a remedial program in inclusive mathematics classrooms

13:00 - 14:00	*Lunch Break (Lichthof)*
14:00 - 15:30	Parallel Session II • Symposium 2: Early Prevention of developmental risk and learning disabilities with family-supporting programs in Europe (Room: KOL-F-117) 1. Maternal competencies, family environment and child development: Effectiveness of the home visiting program “Pro Kind” 2. The effects of the early prevention program “Keiner fällt durchs Netz” (KfdN) [“Nobody Slips Through the Net”] in child, mother, and their relationship 3. First results of the early prevention program “PAT - Mit Eltern Lernen” in the ZEPPELIN study with a high-risk sample • Paper Session 3: (Room: KO2-F-174) 1. Collaborative consultation: An effective form of partnership between mainstream teacher and special educational needs teacher in inclusive context 2. Inclusive education in Switzerland 3. How do hard-of-hearing children and adolescents feel their daily life in primary and secondary school?
15:30 - 16:00	*Coffee/Tea Break (Lichthof)*
16:00 - 17:30	JURE Workshop (Room: KO2-F-175)
19:00 - 22:00	*Conference dinner (Restaurant Neumarkt, Neumarkt 5, 8001 Zürich)*

1. Keynote Speech: Prof. Dr. Nancy Jordan: 10:00 - 11:00 (Room: KOL-F-117)

Developing Number Sense in Children at Risk for Learning Disabilities in Mathematics

Prof. Dr. Nancy Jordan, University of Delaware, USA

Nancy C. Jordan is Professor of Education at the University of Delaware. She is principal investigator of the Number Sense Intervention Project (funded by the National Institute of Child Health and Human Development) as well as the Center for Improving Learning of Fractions (funded by the Institute of Educational Sciences). She is author or co-author of many articles in children's math and has recently published articles in *Child Development*, *Journal of Learning Disabilities*, *Developmental Science*, *Developmental Psychology,* and *School Psychology Review*. Professor Jordan holds a Bachelors degree from the University of Iowa, where she was awarded Phi Beta Kappa, and a Masters degree from Northwestern University. She received her doctoral degree in education from Harvard University and completed a post-doctoral fellowship at the University of Chicago. Before beginning her doctoral studies, she taught elementary school children with special needs. Recently, Professor Jordan served on the Committee on Early Childhood Mathematics of the National Research Council of the National Academies.

Abstract:

Dr. Jordan will present the findings from her 5-year intervention research project on developing number sense in young children (i.e. 5 to 6 year olds) at risk for learning disabilities in math. Number sense in children is operationalized as knowledge of number, number relations, and number operations and is highly predictive of future math success. Core deficiencies in number sense underlie many math difficulties and can be identified as early as pre-K. Using a series of randomized studies, the work has shown that number sense is malleable and targeted interventions in number sense lead to improved math achievement in school – even in the most treatment-resistant children.

2. Parallel Session I: 11:30 – 13:00

Symposium 1: (Room: KOL-F-117)

Hessels & Pelgrims: *Inclusive schooling: What do longitudinal and contextual comparative studies reveal about students' learning?*

1. Eckhart*: Consequences of school segregation: Results of a longitudinal study*
2. Schwab*: Self-reported loneliness in students with and without special educational needs*
3. Hessels: *Teachers' evaluations of the social participation of students with and without special educational needs: An empirical study in inclusive and regular classrooms*
4. Pelgrims: *Special educational needs and regular students' activity during mathematical problem solving in regular and special education classrooms*

Paper Session 1: (Room: KO2-F-174)

1.1 Kozulin & Kazaz: *Developing the concept of perimeter and area in students with learning disabilities*

1.2 Lambert & Flunger: *The contribution of latent profile analysis to the debate on criteria for learning disabilities*

1.3 Hakkarainen, Holopainen & Savolainen: *The impact of reading and mathematical difficulties on young adults' stituation in life five years after compulsory education*

Paper Session 2: (Room: KO2-F-175)

2.1 Wullschleger & Stebler: *Fostering mathematical competencies via individualised learning support in kindergarten*

2.2 Hepberger: *Modeling and measuring of action-related mathematical competence of kindergarten teachers*

2.3 Stöckli & Pfister: *Effectiveness of a remedial program in inclusive mathematics classrooms*

Symposium 1: Inclusive schooling: What do longitudinal and contextual comparative studies reveal about students' learning? (Room: KOL-F-117)

- *Chairs: Marco G.P. Hessels & Greta Pelgrims, University of Geneva, Switzerland*
- *Discussant: Christoph Mueller, University of Fribourg, Switzerland*

Abstract:

The change towards inclusive schooling supposes that all special educational needs students' learning and development is fostered within one and the same classrooms. Research shows that school inclusion is indeed beneficial regarding school achievement, learning outcomes, and social affective dimensions, although contradictory results appear, especially for students identified with behavioral difficulties. In this symposium, the effects of school inclusion are investigated from different angles. In the study by Eckhardt and Sahli Lozano, student data from integrated and segregated classes was linked to their life situation at young adulthood, which allowed drawing a longitudinal picture of student development. Schwab's study focuses on self-reports about social integration, school well-being and the social self-concept of students with and without special education needs in inclusive and special education classes, both in primary and secondary education. Complementary to this study, Hessels and Schwab have focused on teachers' reports about the social participation of students. Lastly, Pelgrims and Bauquis have chosen to examine students' context perceptions, situation appraisals and learning activities during actual learning tasks in regular and special education classrooms.

Paper 1: Consequences of school segregation: Results of a longitudinal study

- *Presenter: Michael Eckhardt, Pädagogische Hochschule Bern, Switzerland*
- *Co-Author: Caroline Sahli Lozano, Pädagogische Hochschule Bern, Switzerland*

Abstract:

The results of this article are taken from a large-scale Swiss National Science Foundation (SNSF) research project, which was conducted as part of the Freiburg research on integrated schooling (IntSep). The main focus lays on the long-term consequences of integrated vs. segregated schooling. For this purpose, young adults who attended integrated schools (in regular classes) and young adults with a segregated schooling background (in special needs classes for learning disabled students) were examined. A specific characteristic of this longitudinal study is that data from a survey undertaken while participants still were at school could be linked together with available data from a survey carried out during young adulthood after they left school.

Results are discussed referring to education accessibility, social integration, self-esteem and self-concept of ability. They are essential for the school policy debate and offer important and rational arguments for the on-going debate on school integration. Overall, the attendance of a special needs classroom appears to yield negative effects. Results firstly confirm the assumptions of former research, that schooling within special education classrooms has negative impact on educational accessibility during young adulthood. Attending special education compared to attending regular classrooms as a child, has a significant long-term effect on vocational education during young adulthood.

Secondly, the results show that the differences between the attended classroom types are not specific considering individuals' later professional situation. Young adults who had been in special education classrooms have significantly smaller networks of relationships than young adults who had been in regular classrooms. Similar results are found with respect to self-esteem and self-concept of ability, with a negative impact of special education classrooms schooling.

Given the negative long-term effects of segregated schooling, the promotion of classes for the learning disabled is hardly justifiable. In sum, the results therefore support recommendation in favor of integrated schooling of children and young adults with learning disabilities.

Paper 2: Self-reported loneliness in students with and without special educational needs

• *Susanne Schwab, University of Graz, Austria*

Abstract:

International studies have raised concerns about the social participation of students with special educational needs (SEN) in inclusive classrooms. For example, students with SEN report higher levels of loneliness than their non-disabled peers.The first aim of this study was to evaluate the appropriateness of a short-version of the Illinois Loneliness and Social Satisfaction Scale (ILSS; Asher, Hymel, & Renshaw, 1984) with children with SEN. The second aim was to explore loneliness in relation to self-perceived social integration, school well-being and the social self-concept in students from primary and secondary schools, in both inclusive and regular classes. Data from 1115 students (410 fourth graders and 705 seventh graders) were collected, of which 126 were diagnosed as having SEN. Factor analyses confirmed the specification of a unidimensional latent factor structure. Reliability analyses showed satisfactory results and also the validity coefficients indicated that this scale is suitable for surveys including SEN children. Generally speaking, the self-rated loneliness is low. Nevertheless, SEN students in inclusive classes felt significantly lonelier than students without SEN in inclusive classes ($F [1, 613] = 41.25$, $p < .01$, $\eta 2 = .06$). Students from primary and secondary schools did not differ

in their self-rated loneliness. Further, no significant difference was found between students without SEN from inclusive and regular classes. As feelings of loneliness predict negative psychological and physical outcomes there is some reason for concern.

Paper 3: Teachers' evaluations of the social participation of students with and without special educational needs: An empirical study in inclusive and regular classrooms

- *Presenter: Marco Hessels, University of Geneva, Switzerland*
- *Co-Author: Susanne Schwab, University of Graz, Austria*

Abstract:

Recent studies investigating the social participation of students with SEN consistently confirm that students with SEN are at risk of unequal social participation when compared with their non-disabled counterparts. This study examines the psychometric qualities of a German translation of the Social Participation Questionnaire (SPQ; Bossaert, Martens, Vanmarsenille, Vertessen, & Petri, 2013; see also Koster, Timmerman, Nakken, Pijl, & van Houten, 2009). This teacher questionnaire assesses the social participation on four main issues, namely, (1) relationships, (2) interactions, (3) perception of the student and (4) acceptance by classmates. Teacher rated the social participation of 823 students (296 4th graders and 527 7th graders), of which 84 students were diagnosed as having SEN. Reliability analyses showed satisfactory results for all four subgroups (primary vs. secondary school and with or without SEN; Cronbach's α = .79–.93). Teachers generally rate social participation as high for all students. However, social participation on three subscales (relationships, interactions and perception of the student) was rated lower for students with SEN than those without SEN. Furthermore, teachers from inclusive classes rated the social acceptance of their students higher than did teachers from regular classes. Moreover, teacher ratings of interactions, acceptance and perception of the students of primary school students were higher than teacher ratings of secondary schools students.

Paper 4: Special educational needs and regular students' activity during mathematical problem solving in regular and special education classrooms

- *Presenter: Greta Pelgrims, University of Geneva, Switzerland*
- *Co-Author: Céline Bauquis, University of Geneva, Switzerland*

Abstract:

The shift towards inclusive schools presumes that, by means of different collaborative, instructional, and learning conditions, all special educational needs students' learning and

social participation might be fostered within regular classrooms. Benefits of school integration indeed have been shown on school achievement, learning outcomes, and social affective dimensions, although contradictory results appear, especially for students identified with behavioral difficulties (e.g., Hornby & Evans, 2014). Studies indicate that many regular teachers negatively perceive the students' behavioral problems, strongly rely on special education support, display interactions less focused on task content and more on behavior management (e.g., Jordan & Stanovich, 2003), with few efficient strategies (e.g., Evans, Weiss, & Cullinan, 2012). A situated approach of students' learning and motivation (e.g., Boekaerts, 2005) assumes student's cognitive, social, affective and behavioral activity strongly depends on how students appraise a didactical situation and the classroom context in which it unfolds. Our previous research conducted according to this approach within special education classrooms for students identified with learning and behavioral difficulties, provides some confirmation of this assumption: Students' learning commitment or coping strategies are more related to the way they appraise mathematical situations, than to general individual motivational dimensions, with the exception of their general ability to self-regulate emotions and affects (e.g., Pelgrims, 2013). But it is unclear whether the context and situation appraisals differ between regular and special education classrooms, and between disabled and regular students into de same context. Our study partly contributes to clarify this question. It examines students' context perceptions, situation appraisals and learning activity which unfolds during actual learning tasks in regular and special education classrooms.

Two special education classrooms for students identified with learning and behavioral difficulties, as well as three regular classrooms, are involved, with a total of 52 regular and 13 special education students; four of the latter attend regular classrooms for mathematics and other domain instruction. Self-reported measures related to context perceptions (i.e., instructional practices, feeling of belonging, peers acceptability), and affective dimensions related to mathematics (i.e., interest, self-concept of ability, affective self-regulation) are collected with a questionnaire. Situation appraisals (i.e., task specific interest, self-confidence), as well as learning vs. coping intentions, cognitive and affective self-regulation, are collected with an on-line questionnaire before and after resolving a mathematical problem. Content analysis of the students' problem solving provides the cognitive strategies and procedures they used. Statistical analyses, as well as qualitative analyses focusing on a sample of regular and mainstreamed special education students' activity, are currently carried out. Results related to students and contexts differences will be presented and discussed.

Paper Session 1 (Room: KO2-F-174)

PAPER 1.1: Developing the concept of perimeter and area in students with learning disabilities

- *Alex Kozulin & Sigalit Kazaz; Achva College and Feuerstein Institute Jerusalem, Israel*

Abstract:

Under conditions of inclusive education and with the expectation that students with learning disabilities (LD) should participate fully in the regular educational activities the question of their mastery of geometric concepts and operations becomes very acute. At the same time we still know relatively little about specific difficulties with geometry tasks experienced by students with LD and the ways of coping with these difficulties. The present research aimed at developing educational program effective for the development of the concept of perimeter and area in students with LD and testing this program. As such the study used a mixed methods methodology combining action research with quasi-experimental design involving experimental and comparison groups. The experimental group included 15 pupils, 8 boys and 7 girls (average age 12.39 SD 0.5). All pupils were diagnosed as having LD, studied in the inclusive classroom in regular school, and were entitled to additional hours of small-group instruction as specified by their individual learning plans. Students in the comparison group (N=15, 7 boys and 8 girls, average age 12.19 SD 0.23) had typical development and no diagnosed LD; they studied in the same school and received standard mathematical curriculum. The use of action research methodology was prompted by our desire to embed the research process into actual classroom activity and to benefit from the reflective practice of teacher-cum-researcher. The study started with pre-test that provided material for identifying problems experienced by pupils with LD. The analysis of students' mistakes was used for constructing the first version of the intervention program. The program then started being implemented while the teacher-cum-researcher documented its implementation in her reflective diary. The revision of the initial program was undertaken on the basis of the teacher-cum-researcher's diary and the revised program then implemented. The final program had 12 sessions and included the development of both general cognitive strategies and more specific geometry strategies. The central element of the program was the elaboration of the concept of 'measure' and its use for the estimation of length and area. At the end of the intervention program post-test was performed that included tasks similar to those of the pre-test. The comparison of the experimental group pre- and post-program test results demonstrated statistically significant improvement of pupil's performance in

all tasks with effect sizes ranging from 0.38 to 2.77. Students in the comparison group, predictably, started with significantly better pre-test results. However, they made less impressive change than their peers from the experimental group, who actually even outperformed the comparison group at the post-test in the perimeter and area tasks ($t = 2.26$; $p = 0.009$). It is possible to conclude that intervention program based on combination of general cognitive strategies with the concept and operation of 'measurement' appears to be effective in significantly improving the geometry task performance of pupils with LD and facilitate their inclusion into regular classrooms.

PAPER 1.2: The contribution of latent profile analysis to the debate on criteria for learning disabilities.

- *Presenter: Katharina Lambert, University of Tuebingen, Germany*
- *Co-Author: Barbara Flunger, University of Tuebingen, Germany*

Abstract:

There has been an ongoing debate on the classification criteria used to identify math and/or reading learning disabilities in children. Mostly, a discrepancy-based criterion or cut-offs are used for classification. However, results vary as a function of the criteria (Mazzoccoo & Meyers, 2003) and the allocation to certain categories was shown to be fairly unstable over time. Further, the theoretical and empirical basis of both classification approaches is weak, and most studies used small sample sizes which resulted in small cell frequencies making it difficult to judge the quality of the chosen criteria. The major objective of the present study was to assess the quality of discrepancy- and cut-off-based criteria. More specifically, two research questions were tested. First, it was explored how robust these criteria are, and second, if similar groups could be found using a person-centered approach (latent-profile analysis; LPA). To this end, the longitudinal data of N = 2008 students was investigated. Children were classified as learning disabled in math (MD) or reading (RD) if they either scored below the 11th percentile (cut-off) or if their achievement was 1.5 SD below their intellectual ability. Children whose percentile was between 11 and 25 were considered to have mild math disabilities (MMD). Children who met the criterion of learning disability in both domains were classified as combined learning disabilities (CD). All others were considered as average achieving (AA). Regarding the first research question, analyses revealed that the CD group was the most stable group over time. In contrast, categorization of MD/SMD and RD students varied substantially between the two time points. Addressing research question two, we conducted latent-profile analyses (LPA). Five profiles were identified: average achieving, high achieving, low intellectual ability, supported over-achiever and reading disabled. No distinct group of mathematically low performing students could be found. When comparing these profiles with the cut-off- and

discrepancy-based categories, analyses showed that most CD students would be allocated to the low intellectual ability profile whereas children with MD/SMD were mainly associated with either the low intellectual ability or the supported over-achiever profile. Interestingly, when considering the RD group only less than 12% of those who had been classified as RD using the discrepancy criterion were allocated to the RD profile whereas almost 40% were so based on cut-offs. To our knowledge, this study is the first one applying the LPA on a large-scale assessment sample assessing learning disabilities. Results imply a higher validity and robustness of the cut-off-criterion compared to the discrepancy-based approach. However, the LPA could not identify a profile or students with distinct math disabilities which implies a fuzziness of the construct of MD. Implications of the study will be discussed.

PAPER 1.3: The impact of reading and mathematical difficulties on young adults' situation in life five years after compulsory education

- *Presenter:* *Airi Hakkarainen: University of Eastern Finland, Joensuu, Finland*
- *Co-Authors:* *Leena Holopainen: University of Eastern Finland, Joensuu, Finland*
  Hannu Savolainen: University of Jyväskylä, Finland

Abstract:

1. Background of this study

During the last few decades the importance of education for employment and the need of postsecondary education has increased significantly (deFur & Korinek, 2008). Reading and mathematical difficulties hamper access to postsecondary education (Gregg, 2007; OECD, 2011) and increase the risk of dropping out of education (Bear, Kortering, & Braziel, 2006; Levine & Nourse, 1998). Furthermore, in the course of economic recession, as currently, the number of young people not in education, employment or training (NEET) tends to increase (Henderson, 2010); it seems that most of all individuals with learning disabilities are those who experience even permanent unemployment in consequence of recession (Kaye, 2010).

In mathematics, according to Mazzocco (2007), the terms "disability" and "difficulty" differ essentially; the former suggests a biologically-based disorder, and the latter includes a much wider range of performance. In the present study, the terms "reading difficulties" and "mathematical difficulties" are used in a context where skills in reading and in mathematics were measured by screening tests among general education students; further, due to the test used, the classification of learning disabilities was not possible. In the present study, the term "reading difficulties" is used for consistency with the term "mathematical difficulties."

2. Goals and participants

In this study, at first we investigated in separate models the individual effects of reading and mathematical difficulties on delayed graduation from upper secondary education, short educational trajectory, and individual´s becoming a member of the NEET group (not in education, employment, or training). We were also interested if the roles of reading and mathematical difficulties would be the same in shared model compared with the individual models. The participants of the study were one whole age-group of Finnish adolescents (N = 597, 304 females, 293 males; mean age 15.9) who were followed for five years after graduation from comprehensive school.

3. Analysis

The structural equation modeling (SEM) was used as analysis method with the MPLUS (version 6.11) program (Muthén & Muthén, 2010). Since our model consisted of continuous latent and discrete observed variables, the "weighted least square parameter" (WLSMV) estimation method was used. The effects of educational track and gender on the model were tested using chi-square difference tests. Because of the estimation method, WLSMV, the DIFFTEST option within MPLUS program was used in difference testing.

4. Results

Results from SEM-models and path analysis showed that, in individual models, mathematical and reading difficulties very similarly predicted delayed graduation from upper secondary education, short educational trajectory, and individual´s ending up as a member of the NEET group. When reading and mathematical difficulties were studied in shared model in parallel, their roles diverged. Reading difficulties was a strong predictor of delayed graduation from upper secondary education whereas mathematical difficulties strongly predicted short educational track and membership of the NEET group.

Parents' educational background is known to be a robust indicator of SES and it affects their children's educational achievement (Dubow, Boxer, & Rowell, 2009). In the present study, socioeconomic status was measured by parents' education level, and, interestingly, only father's education level had direct effect on the level of reading and mathematical difficulties. Furthermore, father's educational background also directly predicted short educational trajectory of their offspring. Indirectly through reading difficulties, father's educational background predicted delayed graduation from upper secondary education, and through mathematical difficulties short educational trajectory and membership of the NEET group.

Aligned with previous studies about non-significant gender differences in reading skills (e.g. Adlof et al., 2010) or in mathematics (Royer & Walles, 2009) our study showed that there were no gender differences, or differences between students in vocational education and upper secondary general education in the consequences of learning difficulties on young adults' later educational trajectory.

5. Practical implications

The results of this study highlight the fact that reading and mathematical difficulties measured in compulsory education have alarmingly far-reaching consequences. It is important that students with learning difficulties receive adequate support that continues long enough in order they were to reach the same educational level than students without learning difficulties.

Paper Session 2 (Room: KO2-F-175)

PAPER 2.1: Fostering mathematical competencies via individualised learning support in kindergarten

- *Presenter: Andrea Wullschleger, University of Zurich, Switzerland*
- *Co-Author: Rita Stebler, University of Zurich, Switzerland*

Abstract:

Children differ greatly in their mathematical competence when they begin kindergarten (e.g. Stamm, 2004). Mathematical pre-knowledge has proven to be a crucial factor in children's performance in primary school math (e.g. Dornheim, 2008). For this reason, it is important to strengthen those early competences. One possibility for a suitable intervention for children of this age lies in play (Stebler et al., 2013), which is why mathematical games were developed and tested in the international cooperation project spimaf (play-based mathematical early intervention, promoted by the IBH).

From a social-constructivist point of view, games cannot on their own foster children in their zone of proximal development. It is the individualised learning support given by the teacher that plays a key part in the competence development, especially in kindergarten (van de Pol et al., 2010; Sylva et al., 2004). Hence, this dissertation project investigates the individualised mathematical learning support given by the kindergarten teacher during children's play.

The research is based on video data. In thirty kindergarten classes in Baden-Württemberg (D), Vorarlberg (A) and St.Gallen (CH), video data of play sequences (N=356) were collected. Three sequenced steps are taken in order to analyse the videos. Firstly, the interaction sequences between a kindergarten teacher and playing children are registered and basis coded. A frequency analysis gives some indication about the quantity, the duration and the type of interaction content. Secondly, the interactions with mathematical content are analysed further. Characteristics of the individualised learning support given by the kindergarten teacher are assessed through a self-developed rating instrument. Thirdly, the rating results are related to context variables of the kindergarten teacher to look for possible patterns.

The findings are expected to indicate possibilities and recommendations for competence based learning in early mathematical education. At the paper presentation findings of the frequency analysis as well as first results of the ratings will be presented.

PAPER 2.2: Modeling and measuring of action-related mathematical competence of kindergarten teachers

- *Presenter:* *Brigitte Hepberger. University of Applied Sciences, HfH Zürich, Switzerland*
- *Co-Authors:* *Elisabeth Moser Opitz, University of Zürich, Switzerland*
  Anke Lindmeier, IPN Kiel, Germany
  Aiso Heinze, IPN Kiel, Germany
  Imke Knievel, IPN Kiel, Germany
  Miriam Leuchter, University of Münster, Germany
  Franziska Vogt, University of Applied Sciences, St. Gallen, Switzerland

Abstract:

A number of studies indicate the importance of pre-school mathematics education – especially for at-risk children, and evaluated concepts and training programs are available (eg. Jordan, Kaplan, Ramineni & Locuniak, 2009; Krajewski & Schneider, 2009; Gasteiger, 2012; Rechsteiner, Hauser & Vogt, 2012). However, based on research from primary school education (Hill, Ball & Schilling, 2004), the question arises if and how the mathematical content knowledge and pedagogical content knowledge (Shulman, 1986) of kindergarten teachers affect the mathematical achievement of the children. In addition, it is widely discussed if and how it is possible to measure these competencies, especially with respect to actions in teaching situations.

An video-based Instrument was developed in accordance with a the threefold domain-specific model with three components the basic knowledge component (e.g. knowledge about the development of number sense), the reflective competence component (e.g. pre-instructional reflections about teaching, post-instructional analyses of students´ learning processes) and the action-related competence component (e.g. answering questions of the children or giving adaptive assistance. With regards to teachers of primary school these three components could be empirically differentiated.

Research questions and methods:

The aim of the present study is to develop a reliable and valid video-based questionnaire to measure the professional mathematical competencies of kindergarten teachers. The instrument contains the following items:

• Basic knowledge component (BK, 7 items)

• Reflective competence component (RC, 9 items)

• Action-related competence component (AC, 7 video-based items)

First Results:

The pilot study is based on the data of 89 kindergarten teachers from Switzerland (N=69) and Germany (N=20). 48,3% of the participants had a non-academic qualification, 51,7% had a bachelor's degree.

First analyses show satisfactory results for the reliability of the instrument and the subscales. In addition, the results of a confirmatory factor analysis (Muthén & Muthén, 1998-2012) indicate that the results correspond to the theoretical model.

In our presentation, we would like to present these results in detail and also discuss first analyses with respect to variables like the education and the professional experience of the participants.

PAPER 2.3: Effectiveness of a remedial program in inclusive mathematics classrooms

- *Presenter: Meret Stöckli, University of Zurich, Switzerland*
- *Co-Author: Miriam Pfister, University of Zurich, Switzerland*

Abstract:

A longitudinal study is presented which examines the effectiveness of a remedial program for low achievers in mathematics and their classmates in inclusive classrooms. The paper addresses the questions whether a) a remedial program in mathematics, which focuses on basic arithmetical concepts and highly regards responsive teaching, increase the mathematical achievement of pupils and whether b) the intensity of teachers' support (program and in-service training vs. program only) influences the mathematical achievement of pupils?

Research demonstrates that low achievers in mathematics have not or have only partially acquired basic arithmetical concepts like counting competencies, place value and the meaning of basic operations (e.g. Andersson 2010; Geary et al. 2007). According to several authors, programs which focus these topics are most promising (e.g. Pedrotty Bryant et al. 2008). In addition, Montague (2011) emphasizes that programs which are highly structured and organized and use procedures such as cueing, modelling, verbal rehearsal and feedback are important.

The presented intervention focused on important mathematical topics (counting, understanding base ten system, understanding basic operations), and contains instructions for responsive teaching. It was carried out by the classroom teachers in third grade over a period of six months under three conditions: Remedial program with in-service training for teachers (intervention group A), remedial program without in-service training (intervention group B) and regular

classroom instruction (control group C). The sample consists of 811 third-graders in 58 inclusive classrooms and they were randomly assigned to the three conditions. Mathematical achievement is tested four times (pre-test (t1), post-test (t2), follow-up (t3) and long term follow-up (t4)), IQ (CFT 1, Weiß & Osterland, 1997) and socio-economic status (book task; Paulus, 2009) were acquired at pre-test.

In this paper, first results of multilevel regression analysis which is appropriate to evaluate nested data (Snijders & Bosker, 2012), will be presented. The analyses focus on the development of the whole sample (DV math achievement t2 and t3; predictors IQ, SES, prior knowledge (t1) and gender on individual level and the intervention on class level). For the dependent variable “mathematical achievement t2” no significant difference between the control group C and the intervention groups could be found. However, intervention group B outperformed intervention group A significantly. Results for the follow up (“mathematical achievement t3”) indicate significantly higher achievement gains for the group B compared with the two other groups. These results and their interpretation will be discussed.

3. Parallel Session II: 14:00 - 15:30

Symposium 2 (Room: KOL-F-117)

Lanfranchi: *Early prevention of development risk and learning disabilities with family-supporting programs in Europe*

1. Jungmann: *Maternal competencies, family environment and child development: Effectiveness of the home visiting program "Pro Kind"*
2. Sidor: *The effects of the early prevention program "Keiner fällt durchs Netz" (KfdN) ["Nobody Slips Through the Net"] in child, mother, and their relationship*
3. Lanfranchi: *First results of the early prevention program "PAT - Mit Eltern Lernen" in the ZEPPELIN study with a high-risk sample*

Paper Session 3 (Room: KO2-F-174)

3.1 Alvarez: *Collaborative consultation: An effective form of partnership between mainstream teacher and special educational needs teacher in inclusive context*

3.2 Luder, Jossi, Kunz & Paccaud: *Inclusive education in Switzerland*

3.3 Audeoud: *How do hard-of-hearing children and adolescents feel during daily life in primary and secondary school?*

Symposium 2: Early prevention of developmental risk and learning disabilities with family- supporting programs in Europe (Room: KOL-F-117)

- *Chair: Andrea Lanfranchi, Hochschule für Heilpädagogik Zurich, Switzerland*
- *Discussant: Sonja Perren, University of Konstanz, Germany*

Abstract:

Educational careers are strongly influenced by early childhood experiences. For instance, the PISA studies demonstrated the close connection between social status and school success (OECD, 2010). Supporting these children at school entrance may not compensate for these disadvantages (Moser & Lanfranchi, 2010). Therefore, early childhood (0 to 3 years) is seen as a critical window for intervention in order to alter long-term educational opportunities. Internationally, a growing body of programs focuses on the early support of children living in environments that may jeopardize their development (see Bull, McCormick, Swann & Mulvihill, 2004, and Ziegenhain & Künster, 2012, for reviews in the UK and Germany). Early intervention programs aim at increasing educational opportunities by providing children with early support from birth onwards. Other than in formal education, the child is not the primary addressee of the support. Rather, the goal is to improve parenting behaviour by increasing the awareness of child development, and one's own attitudes and feelings towards the child. In this Symposium we present the three major RCT-studies with high-risk-family supporting programs in Europe: "Pro Kind" (Tanja Jungmann), "Keiner fällt durchs Netz" (Anna Sidor) and "PAT – Mit Eltern Lernen" (Andrea Lanfranchi). First results show that measures primarily focused on home visiting programs can have a positive impact on family environment, parental competences and child development.

Paper 1: Maternal competencies, family environment and child development - Effectiveness of the home visiting program 'Pro Kind'

- *Presenter:* *Tanja Jungmann, University of Rostock, Germany*
- *Co-Authors:* *Susan Sierau. University Clinic Leipzig, Germany*
  Verena Evers, University of Bremen, Germany
  Tilman Brand, University of Bremen, Germany

Abstract:

Background: Home visiting is the most prominent approach to support psychosocially and financially disadvantaged families. Meta-analyses and systematic reviews revealed significant but small positive program effects on parenting competencies and child development. In the

present study, we assessed the effectiveness of the home visiting program “Pro Kind”, a German adaptation of the U.S. American Nurse-Family Partnership (NFP) program.
Methods: A total of 755 high-risk women were recruited in a multi-centred, longitudinal trial and randomly assigned to the treatment group (n=394) or the control group (n=361) (RCT). Women in the treatment group received regular home visits, whereas women in the control had only access to standard community services. Program influences on family environment (e.g., quality of home, social support), maternal competencies (e.g., maternal self-efficacy, empathy, parenting style), and child development (e.g., cognitive and motor development) were assessed from pregnancy (baseline) to 24 months of child’s age by self-reports in regular interviews and developmental tests.
Results: ANOVAs with repeated measurements show positive but small program effects on mother’s self-reported competencies (maternal self-efficacy, empathy, belief of control), and family environment (maternal stress, further children). Yet, women in the control group showed higher scores on observed quality of motherchild interaction. Subgroup analyses revealed different program influences in highrisk and low-risk families.
Conclusion and Implications: The effect sizes are comparable to those found in previous studies, but the direction of effects is partly inconsistent with our expectations, particularly regarding the difference between self-rated maternal competencies and observed quality of mother-child interaction. This underlines doubts of recent reviews in investing in home visitation as a stand-alone early intervention strategy.

Paper 2: The effects of the early prevention program ‘Keiner fällt durchs Netz’ (KfdN) [‘Nobody Slips Through the net’] on child, mother, and their relationship

- *Presenter: Anna Sidor, University Clinic Heidelberg, Germany*
- *Co-Author: Manfred Cierpka, University Clinic Heidelberg, Germany*

Abstract:

Background: The study investigated the effects of a German family-supporting prevention program “Keiner fällt durchs Netz” (KfdN) (“Nobody Slips Through the Net”) after the child’s first year in the sample of psychosocially stressed mothers and children who took part in this program. The program KfdN offers psychosocial prevention for families at risk with children in their first year of life in a total of 11 administrative districts in the German states of Hesse, Baden-Wuerttemberg, and Saarland. The main purpose of the intervention program is to support families with infants in basic parental skills at an early stage so that they can cope better with the intense psychosocial stress they experience.
Methods: 152 mother-child dyads enrolled in the family support research project “Nobody slips through the net”, 150 constituted the comparison group. These families faced psychosocial

risks (e.g. poverty, excessive demands on the mother, and mental health disorders of the mother, measured with the risk screening instrument Heidelberger Belastungsskala - HBS) and maternal stress, determined with the Parental Stress Index (PSI-SF). The children's developmental levels were evaluated by means of the Ages and Stages Questionnaires (ASQ). Maternal sensitivity was assessed with CARE-Index. Research questions: Intervention effects after the intervention (at child`s age 1 year) were expected in the following areas: maternal competence (sensitivity) and stage of infant development, particularly in the areas of social development and communication.

Results: The improved level of development posited in the children after intervention compared to children from the comparison group was confirmed in the social development area (d = .35). In addition, the mothers in the KfdN group judged their 1-year-old children less "difficult" compared to the assessments of the mothers in the comparison group (d = .24). Due to the intervention, the dysfunctionality of the mother-child interaction was reduced (mothers' self-assessment, d = .27). No intervention effects were found in the area of the degree of maternal stress. The expected intervention effects in the area of maternal sensitivity were not empirically confirmed.

The interpretation of findings: The results suggest that the KfdN intervention has exerted a direct positive influence on childhood traits like social development and temperamental "difficulty" and has also positively influenced the mothers' perceptions or attitudes towards their children's conduct. The lack of an intervention effect in the area of maternal sensitivity suggests taking this aspect into account more seriously in developing the concept of the program — through additional training of the family midwives and introducing the video feedback approach.

Paper 3: First results of the early prevention program 'PAT - Mit Eltern Lernen' in the ZEPPELIN study with a high-risk sample

• *Andrea Lanfranchi, Hochschule für Heilpädagogik Zurich, Switzerland*

Abstract:

Background: ZEPPELIN (Zurich Equity Prevention Project with Parents Participation and Integration) is an intervention study with two objectives: First, interdisciplinary early detection of children jeopardized in their development for psychosocial reasons. Secondly, intensive and case-related early support of these children in order to increase their long-term educational opportunities. Within the framework of a home-based and partially center-based approach, a qualified female specialist for child care of the counseling service for small children visits families from the target group at home, one to four times a month, and invites them to the monthly group meetings in the family center. The specialist applies the US-American program (adapted to Europeans standards) „PAT – Parents as teachers" for children from 0 to 3, to raise

the parents' awareness for the age-specific needs of their children, to prepare them for a close collaboration with the educational institutions and to give optimum support to the children's language development. Since the autumn of 2009, ZEPPELIN has been implemented successfully as feasibility study (ZEPPELIN/M) with 15 families. Now the main study is carried out with 252 families randomized into an intervention (132) and a control group (120) living in 14 communities in the agglomeration of Zurich.

Methods: Data collection started in 2011 when children were approximately 3 months old, and continues at 12, 24, and 36 months. Follow-up studies will be conducted at transition to primary (6-7 years), and secondary school (12-13 years). Psychosocial risk factors were rated in four domains: child (e.g., prematurity), family (e.g., single parent), material (e.g., confined living space), and social (e.g., social isolation) according to the risk screening instrument Heidelberger Belastungsskala (HBS). Additionally, mothers completed questionnaires asking for their attitudes towards their infants (EMKK) and for the belief in their self-efficacy in the domains of care, health, safety and nutrition of small children (SICS). Maternal sensitivity was assessed with the CARE-Index. The stimulating conditions at home were assessed with the HOME Inventory. The children's developmental levels were evaluated by the Bayley Scales of Infant Development (BSID-III).

Preliminary results: To date, baseline data at 3 months and the first results of the measurement at 12 months show that psychosocial risk indeed affects maternal attitudes towards infants. Socially and materially disadvantaged mothers expressed higher agreement with adverse educational attitudes and high family risk lowered mothers' confidence in their own educational abilities. Further, children of the intervention group have higher global developmental values compared to children from the comparison group (with significant item-differences in the area of the receptive language). We expect that the mothers in the intervention group will even express less adverse educational attitudes and higher confidence ratings than the control group at the end of the program and that the effects on children's development will be even higher.

Paper Session 3 (Room: KO2-F-174)

PAPER 3.1: Collaborative consultation: An effective form of partnership between mainstream teacher and special education needs teacher in inclusive context.

• *Lionel Alvarez, University of Fribourg, Switzerland*

Abstract:

Because inclusion becomes a standard, partnership between mainstream teacher and special educational needs teacher has to be operationalized. Different forms of partnership exist to promote inclusion (Trépanier & Paré, 2010). One of the major forms studied in the literature is the collaborative consultation (Erchul & Martens, 2012; Kampwirth & Powers, 2012). In this current research project, it consists of a problem-solving process, where the two teachers decide which evidence-based practice has to be implemented and how it has to be done (Akin-Little, Little, Bray, & Kehle, 2009). Thanks to video recordings, the problem-solving process is based on direct observations. This research project aims to assess the effectiveness and the validity of a protocoled collaborative consultation between the special educational needs teacher and the mainstream teacher, in a context of behaviour special needs education. Through a multiple baselines design across participants (7) during 9 weeks, two dependent variables are evaluated: (1) Frequency or duration of a specific behaviour of the child with special needs and (2) treatment integrity (McIntyre, Gresham, DiGennaro, & Reed, 2007) of interventions implemented by the mainstream teacher. Data collections are done by daily filming 15' of teaching, during specific situations where behaviour problems appear. As data collection is in progress, first results will be presented during the EARLI SIG 15 conference. A significant decrease in frequency or duration of the specific behaviour of the child is expected, as well as a significant increase in treatment integrity of teachers' interventions.

PAPER 3.2: Inclusive education in Switzerland

- *Presenter:* *Reto Luder, Pädagogische Hochschule Zürich, Switzerland*
- *Co-Authors:* *Anna Jossi, Pädagogische Hochschule Zürich, Switzerland*
  André Kunz, Pädagogische Hochschule Zürich, Switzerland
  Ariane Paccaud, University of Fribourg, Switzerland

Abstract:

At present, school systems in most states of Switzerland are shifting towards inclusive support for children with special educational needs. In this situation, it is crucial to know more about the ways and methods of inclusive support in practice and their effects. In the study presented in this paper, the following research questions are adressed: 1) What situations and problems lead to special educational needs and subsequently to inclusive support? 2) How is this support planned, what methods are used to support the children, how are the effects of this support evaluated and what ways of cooperation have school teams found to provide this support? 3) What are the effects of this inclusive support in the domains of language and mathematics for the children? The study (2014 to 2017) conducts a longitudinal design with combination of quantitative and qualitative research methods, ranging from standardized tests to questionnaires, interviews and document analysis. From summer 2015 to 2016, approximately 2000 children from 200 mainstream schools in Switzerland will participate in the study. The results will provide knowledge about the practice of inclusive support for children with special educational needs and show ways for further development of this practice. In this paper, the theoretical framework of individual educational planning is discussed. The results regarding research questions 1 and 2 from a preliminary pilot study (from april 2014 to july 2014) with three schools are presented and discussed. The findings show the different implementations of individual educational planning, the methods used for inclusive support and how the practice of inclusive education is realized in multidisciplinary school teams.

PAPER 3.3: How do hard-of-hearing children and adolescents feel during daily life in primary and secondary school?

- *Mireille Audeoud, Hochschule für Heilpädagogik Zurich, Switzerland*

Abstract:

Introduction – purpose

Since almost 60 years, hard-of-hearing children are taught in regular classes with hearing children in Switzerland (mainstreaming). Although they are supported by special trained personel and technological aids, they still provide a great effort, which can lead to high levels of

stress symptoms (Brunnberg et al., 2008, S. 329). Daily (school) life is based on communication in different surroundings/contexts, in which especially hard-of-hearing children are experiencing barrieres, which they have to compensate with extra effort. The older they get, the more communicational barrieres they have to manage and the less emotionally integrated they feel (Lönne, 2009, S. 38). But these findings come from traditional questionnaires (one timepoint) and show a retrospective average of some experiences. The abovementioned obstacles are naturally occurring in everyday life, so the experience for example of stress (high level of negative activation) or flow (high level of positive activation; Tellegen, Watson & Clark, 1999) should be questioned and measured in the same way, in interaction with momentary contexts.

This raises the following question: Do hard-of-hearing and hearing children's positive and negative activation (Schallberger, 2005) differ? And do hard-of-hearing children change their levels of activation in a different way than their hearing peers do, when they get adolescents?

Method

Since this is a longitudinal study, we show the development of these experiences (first observation: 156 mainstreamed hearing and hard-of-hearing children 11-13 years old, second observation with same participants: 100 mainstreamed hearing and hard-of-hearing adolescents and hard-of-hearing adolescents in separated schooling, 14-16 years old). The Experience Sampling Method (ESM, Hektner et al., 2007) allows the momentary capturing of real-world-data: Participants got 5 signals (SMS) a day during a time span of 7 days via an iPhone. They had to fill out an Internet-based questionnaire during their daily activities.

Multilevel analyses show how hearing impairment influence high levels of activation, how much variance lies within the impairment or the situational contexts.

Results

Findings show, that hard-of-hearing children do *not* differ in their negative activation (stress) during their observation-week (average), but in their positive activation (well-being/flow) in the first observation; although, this difference disappears 3 years later and remains 6 years later; hard-of-hearing and hearing students get more and more similar. Daily situational contexts seem not to disturb hard-of-hearing adolescents as mutch as we thought.

4. *JURE Workshop: 16:00-17:30 (Room KO2-F-175)*

The first part of the workshop will give participants insight into what happens with a manuscript once it is submitted to a scientific journal. What decisions are made based on what criteria and what can an author do to increase the possibility of getting a manuscript accepted? What are the common errors and pitfalls that editors observe over and over? The workshop leader will share tips and tricks, do's and don'ts on how to get your work published. Workshop leader: Marco Hessels, Editor in Chief of The Journal of Cognitive Education and Psychology (JCEP). JCEP presents in-depth articles on theory and empirical research as well as current practice and effectiveness of cognitive assessment, cognitive rehabilitation, cognitive education, and psychology around the world and is the official publication of the International Association for Cognitive Education and Psychology.

The second part of the workshop will give participants an overview of international funding possibilities. Particular focus will be on the Marie Skłodowska-Curie actions that support the career development and training of researchers. The goal of Marie Skłodowska-Curie Individual Fellowships is to enhance the creative and innovative potential of researchers wishing to diversify their individual competence in terms of skill acquisition at multi- or interdisciplinary level through advanced training, international and intersectoral mobility. The workshop is held by EU GrantsAccess, a joint information and counselling centre of the University of Zurich and ETH Zürich, the largest regional office of the Swiss Research Network Euresearch, Sciex Office and EURAXESS Services Centre. It will of course be open for individual questions.

5. *Conference dinner: 19:00-22:00*

The conference dinner will take place at the Restaurant Neumarkt (Neumarkt 5, 8001 Zürich) as from 7pm. For more information see page 11.

D. Tuesday, 26th August 2014

Time	Description
8:30 - 10:00	Parallel Session III • Symposium 3: Towards a better understanding of behavioural problems: Current research issues (Room KOL-F-117) 1. Monitoring students' classroom behavior using Direct Behavior Rating (DBR) – Results of an experimental study comparing means, variance and test-retest reliability of two DBR-scale formats 2. Subgroups of problematic behavior among students of primary school from teachers' perspective – A latent profile analysis 3. Internalizing and externalizing behavior: Subjective experiences in different classroom situations 4. Effects of classroom composition on the development of individual school problem behavior • Paper Session 4 (Room: KOL-F-175) 1. Predictors of reading skills among children with intellectual disability 2. Cognitive risk and protective factors in gifted children with dyslexia: A case series analysis 3. Implementation of an inclusive reading and language enhancement programme during classroom instruction for poor readers in second and third grade
10:00 - 10:45	SIG 15 Business Meeting (Room: KO2-F-174)
10:45 - 11:15	*Coffee/Tea Break (Lichthof)*
11:00 - 12:45	Poster session (partly during coffee break and lunch) (Lichthof)
12:00 - 12:45	*Lunch Break (Lichthof)*

12:45 - 14:15	Parallel Session IV • Symposium 4: Three Views on the Quantitative Analysis of Single-Case Data (Room: KOL-F-117) 1. Reflections on single-case data analysis 2. Which technique is appropriate for analysing single-case AB designs? A Monte-Carlo study on the test-power and alpha error probability of regression and randomization tests for analysing single-case data 3. Practical Bayesian hypothesis testing for single subject designs • Paper Session 5 (Room: KO2-F-174) 1. Multiprofessional activity in special education schools: informal interactions and team meetings to design students' IEP 2. Inclusive education in Switzerland – Formal frames and current practice • Paper Session 6 (Room: KO2-F-175) 1. Accomodation for students with ADHD in postsecondary education: A perfect match with functional and participation problems? 2. Accomodations in higher education for young adults with ASD 3. Occupational careers: What influences them? Midterm occupational pathways of young professionals with Swiss Federal VET Certificate
14:30 - 15:30	Keynote speech: Professor de Jong, Amsterdam (NL) (Room: KOL-F-117)
15:30 - 16:30	*Farewell drinks (Lichthof)*

1. Parallel Session III: 08:30 – 10:00

Symposium 3 (Room: KOL-F-117)

Müller & Zurbriggen**:** *Towards a better understanding of behavioural problems: Current research issues*

1. Huber: *Monitoring students' classroom behavior using Direct Behavior Rating (DBR) – Results of an experimental study comparing means, variance and test-retest reliability oft wo DBR-scale formats*
2. Venetz: *Subgroups of problematix behavior among students of primary school from teachers' perspective – A latent profile analysis*
3. Zurbriggen: *Internalizing and externalizing behavior: Subjective experiences in different classroom situations*
4. Müller: *Effects of classroom composition on the development of individual school problem behavior*

Paper Session 4 (Room: KO2-F-175)

4.1 Sermier Dessemontet & De Chambrier: *Predictors of reading skills among children with intellectual disability*

4.2 van Viersen, de Bree, Kroesbergen & Slot: *Cognitive risk and protective factors in gifted children with dyslexia: A case series analysis*

4.3 Gasteiger-Klicpera, Paleczek, Schwab & Seifert: *Implementation of an inclusive reading and language enhancement programme during classroom instruction for poor readers in second and third grade.*

Symposium 3: Towards a better understanding of behavioural problems: Current research issues (Room: KOL-F-117)

- *Chair: Carmen Zurbriggen & Christoph Michael Mueller, University of Fribourg, Switzerland*
- *Discussant: Alexander Wettstein, Pädagogische Hochschule Bern, Switzerland*

Abstract:

One of the current major concerns in both inclusive and special needs education is problematic behavior in the classroom. On the one hand, teachers are referring to their challenges in dealing with students who exhibit behavioral problems. On the other hand, these pupils are restricted in their social and emotional development and, in many cases, also in their academic learning. The question of adequate placement and support of these students is thus strongly debated (e.g. Evans & Lunt, 2002; Mueller, 2010). The described challenges in this field strongly relate to the underlying complexity of the phenomenon: Behavioral problems are difficult to assess in a reliable way; further, their origins often include personal, situational and contextual factors. By integrating four studies, each focusing on one of these different factors, the symposium aims to contribute to a differentiated understanding of behavioral problems in the classroom. In the first paper, results of an initial evaluation of Direct Behavior Ratings, a fairly new method of social behavior assessment, are presented. In the second paper, the heterogeneity of the population of students with behavioral problems will be addressed using a person-centered approach. The third presentation focuses on the subjective experience of students with internalizing or externalizing behavior across different classroom situations. The final study provides evidence on the effects of different peer contexts in the classroom on individual behavioral development. Based on these contributions, the discussion will try to integrate the different perspectives and to relate them both to questions of basic research as to practical implications.

Paper 1: Monitoring students' classroom behavior using Direct Behavior Rating (DBR) – results of an experimental study comparing means, variance and test-retest reliability of two DBR-scale formats

• *Christian Huber, University of Potsdam, Germany*

Abstract:

With respect to the inclusion debate there was a subsequent focus on multi-tiered intervention models (e.g. response to intervention). In the context of this discussion a change in diagnostic methods and strategies has been postulated (Fuchs, Fuchs & Stecker, 2010). A change from labeling students by diagnostics to a more developmental approach of diagnostics is a core postulation in this topic. Whereas the current debate has succeeded in numerous instruments for a curriculum-based measurement of cognitive skills, the development of feasible instruments to monitor students' social behavior is just about to begin (Christ et al., 2009). However, Direct Behavior Rating (DBR) is a promising method of social behavior assessment. DBR is a method of social-emotional and behavior assessment that combines the immediacy of systematic direct observation and the efficiency of behavior rating scales (Christ et al., 2009).This study is focusing on an evaluation of DBR with regard to two primary areas: (1) variance of ratings across two different types of scales and (2) two-week test-retest reliability. Based on criteria proposed by Riley Tillman et al. (2011) it is hypothesized that test-retest reliability will be above rtt = .7. Furthermore, it is expected that proportional rating scales result in lower variance of ratings and a higher test-retest-reliability than a qualitative rating scale. 131 undergraduate students viewed eight video clips of a seventh grade target-student and then used single-item DBR-scales to rate the student's academically engaged behaviour. The study was designed as an experimental test-retest design with two independent variables (scale format) and one dependent variable (test-retest-reliability). The participants were randomly assigned to two experimental groups. The first group used an 11-point proportional scale (proportion of time that the target student was engaged), the second group used a qualitative scale (general awareness of the engagement). Participants returned two weeks later to repeat this procedure. Variances of ratings were analysed by computing Kendal's W coefficient. Test-retest reliability was analysed by using Spearman-Brown correlation coefficient. Means and standard deviations of both DBR-Scales were computed and compared. Results revealed that the variation of the scale formats did not affect mean scores of ratings and had just a weak effect on the variance of ratings. Kendal's W was high (W =.81), but decreased to nearly zero when only clips with ambiguous behaviour were included in the analyses. Test-retest analyses revealed values from low to rtt=.5 across the video clips and increased to rtt=.62 ($p < .001$) for a mean score of all eight ratings. Reliability increased up to rtt=.76 ($p < .001$) when only the proportional rating scale was used. Results suggest that DBR is an inappropriate instrument for differential diagnosis but

could be a reliable instrument for progress monitoring. Data of two additional samples (teachers and school psychologists) are collected but have not been not analyzed yet. The results for all samples will be presented on the conference and discussed in the context of the current inclusion debate.

Paper 2: Subgroups of problematic behavior among students of primary school from teachers perspective – A latent profile analysis

- *Presenter:* *Martin Venetz, Hochschule für Heilpädagogik Zurich, Switzerland*
- *Co-Authors:* *Carmen Zurbriggen, University of Fribourg, Switzerland*
  Christian Liesen, Hochschule für Heilpädagogik Zurich, Switzerland

Abstract:

In addition to teaching subject content, fostering social and emotional skills is part of the objectives of school education. One important prerequisite to provide appropriate support is that teachers recognize apparent risks of behavioral problems at an early stage. However, behavioral difficulties reflect a heterogeneous phenomenon (e.g. Myschker, 2013). According to Achenbach (1985), for instance, behavioral problems can be distinguished into internalizing, externalizing and mixed disorders. The core question of this paper is whether teachers perceive problematic behavior on a more general level or as qualitatively different behavioral patterns. If distinct subgroups of students with similar behavioral profiles can be identified, it is of further interest to what extent those profiles correspond with students' self-perception. To address these questions, 60 teachers from 40 inclusive and 20 special classes were asked to assess the behavior of their 10- to 16-year old students (N = 843) using the Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997; Saile, 2007). The SDQ is a widely used, short behavioral screening instrument to measure frequently occurring emotional and behavioral disorders in children and adolescents aged 4 to 16 years. With five items per dimension, the questionnaire provides information on emotional symptoms, conduct problems, hyperactivity, peer relationship and pro-social behavior. Items from the four problem dimensions (excluding the pro-social scale) can be summed up to generate a total difficulties score. Cut-off scores serve to determine problematic behavior. Additionally, students self-reported on their personality (Schallberger & Venetz, 1999) and educational integration (Haeberlin, Moser, Bless & Klaghofer, 1989). In order to identify distinct subgroups, a hybrid model with latent factors and latent classes was specified (Muthén, 2008). The number of latent classes was determined by combining information criteria (AIC, BIC), the Vuong-Lo-Mendell-Rubin test (LMR-LRT; Lo, Mendell & Rubin, 2001), as well as agreement with substantive theory. Comparisons of profiles and students' self-reports were conducted using variance analyses. The latent profile analysis revealed three groups of students with specific behavioral profiles: students with adaptive

(50%), externalizing (30%) or internalizing (20%) behavior. Based on the corresponding cut-off scores, one third of the students with externalizing behavior and approximately ten percent of students with internalizing behavior were classified as 'conspicuous'. The comparison between student's personality and the educational integration (based on self-reports) provided some evidence for the validity of the identified solution: students with externalizing behavior described themselves as less conscientious and agreeable, those with internalizing behavior as less emotionally stable and introverted. Furthermore, students of both subgroups stated that they felt less integrated at school as students with adaptive behavior. Implications regarding the diagnostic competencies of teachers will be discussed.

Paper 3: Internalizing and externalizing behavior: Subjective experiences in different classroom situations

- *Presenter: Carmen Zurbriggen, University of Fribourg, Switzerland*
- *Co-Author: Martin Venetz, Hochschule für Heilpädagogik, Switzerland*

Abstract:

Research on children and adolescents who display externalizing or internalizing behavioral difficulties has typically focused on the corresponding problematic behavioral patterns, skill deficits, and the interventions to treat type-specific conditions (e. g. Jenson, Harward & Bowen, 2011). A more strength-based approach, however, aims to consider determinants that contribute to the subjective well-being and to integrate them in evidence-based interventions. One key aspect of subjective well-being is the quality of momentary experience which is defined as: the current motivation for a specific task (positive activation), the level of stress during a certain situation (negative activation), and the degree of absorption or concentration during an activity (flow). To date, research in this area – focusing on children and adolescents who exhibit problematic behavior – is still in its earliest stages (Miller & Nickerson, 2007; Olympia et al., 2013). With regard to inclusive schooling, it is of particular interest how pupils experience different classroom formats. These formats may differ in terms of the differentiation of instructions, individualized vs. group work settings and the difficulty level of tasks presented. Furthermore, the issue is raised whether the quality of experience across those formats differs between the groups of pupils with externalizing, internalizing or adaptive behavior. To gain a better understanding of pupils' subjective experience in classroom, 719 5th and 6th graders from 40 classes reported their affective state in 14 different teaching situations during a regular school week – with a total of about 10 000 'emotional snapshots' of everyday school life. Data were collected using the experience sampling method (ESM) – a method that allows the systematic collection of the current, cognitively little processed affective experience in the natural life context (for an overview see e.g. Hektner, Schmidt, & Csikszentmihalyi, 2007).

Momentary affective states were measured using the PANAVA short-scales and an adapted flow scale (according to Rheinberg, Vollmeyer, & Engeser, 2003). An examination of the variance components revealed that a large majority of the variance in momentary affective states was situated on the situational level (approximately 60-70 %), around 25-35 % on the student level and around 3-5 % on class level. After controlling for trends over time, multilevel models showed that quality of experience of pupils was most positive during highly differentiated instructions and group work settings. Between task difficulty and the quality of experience existed a curvilinear relationship. Pupils with internalizing or externalizing behavioral difficulties experienced during lessons in general less positive activation, more negative activation and less flow than pupils with adaptive behavior. Additional analyses indicated interaction effects between classroom formats and groups, which will be presented in the talk in more detail. Finally, implications of the results for interventions in the context of inclusive schooling of students exhibiting internalizing or externalizing behavioral difficulties will be discussed.

Paper 4: Effects of classroom composition on the development of individual school problem behavior

- *Presenter:* *Christoph Michael Mueller, University of Fribourg, Switzerland*
- *Co-Authors:* *Verena Hofmann, University of Fribourg, Switzerland*
  Janine Fleischli, University of Fribourg, Switzerland
  Felix Studer, University of Fribourg, Switzerland

Abstract:

In the light of theories of social learning (e.g., Akers, 2009) and empirical findings on peer influence (Dishion & Tipsord, 2011), it may be expected that the composition of classrooms regarding the level of problem behavior among students, is a predictor of the behavioral development of individual pupils. Prior research has focused on young children and found that higher mean levels of behavioral problems among the classmates resulted in more such individual behavior across time (e.g., Thomas et al., 2006; 2011). However, class composition effects may also relate to early adolescence, a period during which the influence of the peers is on the rise. Besides of that, the mechanisms underlying classroom composition are yet less examined. Based on the hypothesis that deviant behavior is socially learned in observations of the peers, we expected that the impact of the classroom composition on an individual is mediated by this individual's observation of the level of problem behavior among his/her classmates. To investigate these issues, a longitudinal design was used with four measurement points across students' first year of Swiss secondary school. 825 7th graders from 52 classes at

each measurement point reported on their own and their classmates' school problem behaviors during the last 14 days (using an anonymous version of the Fribourg Self- and Peer-Report Scales; Mueller et al., 2012). Classroom composition was operationalized as classroom-aggregated values of students' self-reports on their own school problem behaviors (e.g. being impertinent to the teacher, throwing around things in class). Using this procedure, all students of a classroom were assigned the same value of a "behavioral classroom context" (Marsh et al., 2012). It was then examined whether the effect of this classroom context was mediated by the individual student's observation of the classmates' problem behavior (e.g. '5 of my 20 classmates were impertinent to the teacher'). This variable represented the individual perception of the classroom environment, which potentially differs across students in a classroom. Longitudinal negative-binomial multi-level models (Singer & Willet, 2003) indicated that a class composition with higher levels of problem behavior at the beginning of the school year (t1) predicted higher rates of self-reported individual problem behavior across the rest of 7th grade (t2-t4). Performing these analyses, students' own behavior at t1 and factors such as gender, socio-economic status, impulsiveness, parental support, teacher care, out-of-classroom peers' behaviors and educational track were controlled for. The classroom context effect was found to be fully mediated by the individual's perception of his or her classroom environment which supports the idea of social learning among the classmates. These findings will be discussed in terms of the general relevance of classmates' characteristics for students' social development and the way that the peers might influence each other in the classroom. Further, implications of the findings regarding adequate school/classroom placements for pupils with behavioral problems will be addressed.

Paper Session 4 (Room: KOL-F-175)

PAPER 4.1: Predication of reading skills among children with intellectual disability.

- *Rachel Sermier Dessemontet & Anne-Françoise De Chambrier; University of Teacher Education, State of Vaud, Switzerland*

Abstract:

In typically developing children, phonological awareness and letter knowledge have been found to predict word and non-word reading, and to a lesser extent, reading comprehension (Leppänen *et al*., 2008 ; Swanson *et al*., 2003). Less is known about the predictors of reading skills in children with mild or moderate intellectual disability (ID). Most of the studies on the topic were conducted with syndrome specific samples. Contradictory results were found about the predictive role of phonological awareness and letter knowledge for progress in word and non-word reading among children with Down syndrome or Williams syndrome (Cupples & Iacono, 2000 ; Hulme, *et al*., 2012; Kay-Raining Bird *et al*., 2000; Steele *et al*., 2013). Results of studies conducted with children and teenagers with ID with mixed etiologies suggest that word and non-word reading are related to phonological awareness (Chanell *et al*., 2013 ; Conners *et al*., 2001 ; Soltani & Roslan, 2013 ; Wise *et al*., 2010). However, there is a lack of longitudinal studies investigating if phonological awareness and letter knowledge are predictors of progress in word and non-word reading, and reading comprehension in children with mild and moderate ID with mixed etiologies. Our study aims at investigating this issue. For this purpose, data collected in a previous study (Sermier Dessemontet *et al*., 2012) with a standardized academic achievement test (Moser & Berweger, 2007; Moser & Bayer, 2007) were analyzed. This test was administered to 146 children with mild or moderate ID with mixed etiologies when they were 7 to 8 years old (Time 1), as well as one and two school years later (Time 2, Time 3). Hierarchical multiple regression analyses were used. Findings indicate that phonological awareness and letter/sound knowledge at Time 1 predicted word and non-word reading at Time 2, and Time 3, after controlling for IQ, age, expressive vocabulary, language, and word and non-word reading at Time 1. They also predicted reading comprehension at Time 2, and Time 3. Implications of these findings will be discussed.

PAPER 4.2 : Cognitive risk and protective factors in gifted children with dyslexia: A case series analysis.

- *Presenter:* *Sietske van Viersen, University of Utrecht, Netherlands*
- *Co-Authors:* *Evelyn Kroesbergen, University of Utrecht, Netherlands*
  Esther Slot, University of Utrecht, Netherlands
  Elise de Bree, University of Utrecht, Netherlands

Abstract:

Background: Learning disabilities (LD) in gifted children (i.e., twice-exceptionality) are very hard to identify and often remain unrecognized. This study investigated variety in cognitive risk and protective factors of gifted children with dyslexia in order to gain more insight in possibilities for compensation of underlying deficits and masking of literacy difficulties. According to the multiple-deficit model (MDM), LDs occur as a result of the complex interplay between environmental and cognitive risk and protective factors. Gifted children are known to have pronounced strengths in specific cognitive areas related to their high intelligence, that may influence the underlying deficits that are related to dyslexia. Masking and compensation are considered the main reasons for late identification and poor service of twice-exceptional children and pose threats to talent development. By obtaining more detailed information about the cognitive profiles of these children, we gain more insight in the mechanisms of twice-exceptionality, improve practices for gifted education, and advance theories about dyslexia itself.

Research questions: What cognitive profiles of strengths and weaknesses underlie dyslexia in gifted children and how do these profiles relate to masking and compensation of reading and/or spelling problems?

Methods: The sample consisted of 40 gifted Dutch primary school children, divided into a group with absolute literacy problems (i.e., below average performance; gifted/dyslexic group) and a group with relative literacy problems (i.e., IQ-achievement discrepancy of 2 SD; borderline group). A case series analysis was used to map dyslexia-related weaknesses (i.e., phonological awareness [PA], rapid automatized naming [RAN], and verbal short-term memory [VSTM]) and giftedness-related strengths (i.e., verbal and visuo-spatial working memory [WM], and language skills). Children were also assessed on their literacy skills at word and text level. It was hypothesized that the borderline children have fewer risk factors and less severe weaknesses than gifted/dyslexic children and at the same time more protective factors and more pronounced strengths, explaining the higher literacy levels that do not reach the diagnostic threshold for dyslexia.

Results/conclusion: Preliminary results showed that the gifted/dyslexic group and the borderline group did not differ significantly in number and size of risk and protective factors or weaknesses and strengths, although the gifted/dyslexic group showed relatively more children with a double-deficit. However, different relations were found for the groups with respect to the literacy measures. Whereas the number of risk factors and weaknesses was negatively related to literacy performance at word and text level in the gifted/dyslexic group, the number and size of protective factors and strengths were positively related to literacy performance at word and text level in the borderline group. Consequences for the MDM and theories about masking and compensation are discussed.

PAPER 4.3 : Implementation of an inclusive reading and language enhancement programme during classroom instruction for poor readers in second and third grade.

- *Presenter:* *Barbara Gasteiger-Klicpera, University of Graz, Austria*
- *Co-Authors:* *Lisa Paleczek, University of Graz, Austria*
  Susanne Schwab, University of Graz, Austria
  Susanne Seifert; University of Graz, Austria

Abstract:

Reading intervention for poor readers is especially challenging since in many cases children with weak reading abilities are not able to overcome their difficulties and still are at risk of falling behind over time. Since more and more children with special educational needs are taught in inclusive settings it is necessary to develop and to evaluate intervention programs for poor readers that can be implemented during regular instruction. The present study analyzes the effects of an inclusive reading intervention program. The intervention is part of the LARS study (Improving language and reading skills in children with German as a first or second language), a longitudinal study using a pre-posttest quasi-experimental design for the evaluation of a newly conceived fourfold differential reading program. The program is developed for second and third graders and is implemented twice a week by the teachers during regular class instruction. The focus of this presentation will be on the development of poor readers comparing the enhancement program and the regular instruction. The entire sample included 377 second grade children. 159 were supported during seven months (about 50 hours) and conducted the LARS-group while 218 children were taught with the traditional course program (traditional instruction group). The sample of the children with reading difficulties (below PR 15 in decoding) consisted of 36 children (16 in the program and 20 in regular instruction). Reading (decoding with the reading part of the 'SLRT II' and reading comprehension with the 'ELFE 1-6'), spelling (with the Hamburger Schreibprobe) and language abilities (active and passive

vocabulary as well as grammar) of all children have been obtained before and after the program was implemented. The results indicate that the learning effects of all children regarding reading comprehension as well as active vocabulary (learned vocabulary) and grammar skills were significantly higher in the LARS-group than in the traditional instruction group. Regarding reading fluency, passive vocabulary and spelling, however, no positive effects of the program could be observed for the whole group. Furthermore it was possible to enhance the reading and language abilities especially of children with poor reading abilities. This was true for all aspects of reading: decoding of words and pseudowords as well as reading comprehension. The effects on writing were not significant, although the development was clearly positive. Finally all language abilities showed a significant improvement in the poor readers of the intervention group. The results indicate that inclusive settings can be a great chance for children with reading difficulties if it is possible to adjust the level of instruction to their needs and to give them the support they require also through materials aligned at their level of reading ability. The longitudinal study will continue until June 2014 and the results of the second year of intervention (third grade) will be amended for the presentation.

2. SIG-15-Business-Meeting: 10:00 – 10:45 (Room: KO2-F-174)

Every interested conference participant (SIG-member and non-member) is warmly invited to attend the SIG-business-meeting.

3. Poster Session: 11:00 - 12:45 (Lichthof)

Poster Session: Lichthof

POSTER 1: The Incidence of Situational Frame Factors in Special Needs Education Teachers Vocational Training

- *Coralie Delorme, University of Geneva, Switzerland*

Abstract:

According to an interactionist and situated action approach (Bayer, 1998; Doyle, 2006) we assume that a depth knowledge of specific special education contexts should be taken into account to the special needs education teachers training (Pelgrims 2001, 2006, 2009) considered as an expansion of regular teaching (Nougaret, Scruggs & Mastropieri, 2005). Moreover Swiss political injunctions recommend a high-quality special needs education vocational training (CDIP, 2007). In this perspective, future special needs education teachers are nowadays expected to be able to adapt their specific vocational skills not only according to students needs but also to the special education teaching contexts. Some thorough studies of experienced special education teachers practices displayed in special education classrooms or in integration's supports special schools (Pelgrims, 2001, 2009) show however how these practices can regularly be deviated from instructional and educational intentions. Although the importance of context in handicapping condition is largely emphasized, situational frame factors model contributes to explain this phenomenon (Pelgrims, 2006). Vocational training programs are strongly based on categorical approaches, considering that special education teachers should mainly be prepared with a teaching curriculum focused on the knowledge of specific deficiencies in order to propose special pedagogical interventions. We consider indeed that special education teachers' vocational training should also gain by being designed and developed in order to enable future special education teachers getting aware of how particular context features might influence the actual instructional choices and practices. Our current doctoral research aims to analyse special education teachers training activity in order to examine trainees and trainers sensitivity and awareness of different contextual frame factors when analysing their own activity. Moreover it focuses on the development of special education

teachers professional identity trajectories during practical training sessions. Training supports discussions between a trainee and his trainer are used to describe and understand the training experience and the signification granted to special education teaching by both actors. Their preoccupations, focuses, affects or significant feelings, the referential convened in the action at those specific moments, their expectations, the reinforcement or invalidation of a knowledge, are enquired according to the enaction paradigm (Varela, 1989) and the semiological approach (Pierce, 1978) of the course-of-action (Theureau, 2006). Two types of data have been collected in order to document the course-of-experience of trainees and trainers: a) observational video data focused on training activity of six trainees and their trainers, during a train discussion sessions; b) self-confrontation data collected with each individual after the training discussion sessions currently conducted. Results describing different types of experience configurations of special education training activity will be presented and discussed.

POSTER 2: Simple Calculation as a Causal Factor for Arithmetical Disabilities and the Role of Intelligence

- *Presenter: Dietmar Grube, University of Oldenburg, Germany*
- *Co-Authors: Claudia Schmidt & Jenny Busch, University of Oldenburg, Germany*

Abstract:

A considerable proportion of elementary school students are related to arithmetical disability. To find out relevant features as efficient starting points for specific intervention is still a challenge for research. Traditionally, arithmetical ability was considered to be dependent of intelligence, but there is a growing body of evidence that suggests that arithmetical disability results from problems in performing simple calculation (fragile basic arithmetical fact knowledge). The present study aims at testing the hypothesis that a simple calculation handicap is a determinant of arithmetical disability and investigating the relationship between simple calculation and intelligence.

One hundred and sixty-seven third-graders were recruited for a 2 (arithmetic performance) by 2 (intelligence) by 2 (task version) factorial design experiment. The arithmetical disability groups showed arithmetical performance below average, the other groups average arithmetical performance. The children's reading and writing performance was at least on average. In the experimental task version the children had to calculate the difference between a digit shown on the computer screen and 10 and pressed the button with the resulting digit. In the control task version they had to press the button with the digit identical to that shown on the screen.

Children answered to a large extent correctly. The correctness was higher for the experimental task than for the control task and the task version interacted with the factor intelligence resulting from a larger difference between experimental and control task in more intelligent than in less intelligent children. This interaction pattern might result from a ceiling effect. Children with arithmetical disability showed longer overall latencies than the control group and the difference was significantly larger for the experimental task than for the control task (interaction effect between arithmetic group and task version). The main effect of task version was also significant.

The results are consistent with the hypothesis that simple calculation is an important determinant of learning and/or performing advanced arithmetical procedures. The type of the experimental task is related to arithmetic problems crossing the tens boundary. These problems seem to be an important barrier when learning arithmetic. Given that the interaction pattern regarding the proportion of correct answers results from a ceiling effect there is no indication of an influence of intelligence on the experimental simple calculation task. Based on the present results the question arises whether strengthening of basic arithmetical fact knowledge by early training of simple calculation might avoid the emergence of arithmetical disability.

POSTER 3: Functional and participation problems of young adults with dyscalculia

• *Dorien Jansen, Thomas More UC, Belgium*

Abstract:

Theoretical background: Dyscalculia refers to a learning disability characterized by severe problems with acquiring arithmetical skills (e.g. Shalev & Gross-Tsur, 2001). The problems associated with this learning disability can vary and it can also affect one person differently at different stages of life. Therefore, it is necessary to look at dyscalculia from a developmental perspective. Young adults with dyscalculia experience specific functional and participation problems. These functional and participation problems can occur in everyday life, but also in higher education. Previous research regarding dyscalculia in young adulthood mostly focused on a small number of aspects of the disability. However, a complete and structured overview of functional and participation problems of dyscalculia in young adults in general and young adults in higher education in particular, is not yet available.

Research questions: In this study, we examined which functional and participation problems young adults with dyscalculia experience in everyday life and in higher education in particular. These functional and participation problems were mapped using the International Classification of Functioning, Disability and Health (ICF) by the World Health Organization (WHO, 2001).

Methods: Supported by the Educational Development Fund of KU Leuven, we reviewed literature to map the functional and participation problems of young adults with dyscalculia using the ICF framework (WHO, 2001). From this review, a panel of Flemish academic and clinical experts in dyscalculia selected the functional and participation problems that were relevant for a higher education setting. Finally, 29 students with dyscalculia and 31 student mentors rated the presence and severity of these functional and participation problems in higher education, using a self-constructed questionnaire.

Results and interpretation of findings: Based on the literature review and the questionnaire findings, we can conclude that young adults with dyscalculia experience multiple functional and participation problems in daily life as well as in higher education. By mapping these strengths and weaknesses, young adults can be supported more efficiently and effective accommodations can be assigned.

POSTER 4: Self-perception of children with Autism Spectrum Disorder

- *Presenter: Maria Kypriotaki, University of Crete, Greece*
- *Co-Author: Maria Makrygianni, University of Crete, Greece*

Abstract:

Self-perception is person's view of himself/herself and plays a very important role in the growth and development of individuals. The self-concept can decisively affect all aspects of life, such as school performance, professional career, social behavior, interpersonal relationships and mental balance. However, very little is known about self-perception and self-esteem of individuals with Autism Spectrum Disorder (ASD). The present study is preliminary and exploratory. It aims to examine self-perception in children with high-functioning ASD or Asperger Syndrome (AS) compared with typically developing ones in order to find out if the difficulties in social interaction affect their self-perception related to these skills and further research to be designed. In order to be included in the study, the children with ASD or AS had to have average non verbal IQ accessed with Raven's Progressive Matrices and average receptive language (vocabulary). Self-perception was assessed with the Greek edition of Pictorial Scale of Perceived Competence and Social Acceptance for Young Children (Harter & Pike, 1984). Control (n=15) and experimental group (n=15) were matched on chronological age and IQ. Findings showed that self-perception of children with high-functioning ASD or AS did not differ statistically significantly from self-perception of typically developing peers. Statistically significant differences were noticed only in two items about self-perception related to maternal acceptance. These findings are quite interesting given that the difficulties in social domain exist for children with high-functioning ASD and AS. Nevertheless, the children in experimental group consider that they have many friends. In continuation of the present study it would be interesting to study further how children with high-functioning ASD or AS perceive themselves

in relation to how they define some notion such as 'friendship' and in relation to their actual behavior based on observation.

POSTER 5: Grandparents' support to the education of their grandchildren with Special Educational Needs: educators' perceptions

- *Presenter: Maria Kypriotaki, University of Crete, Greece*
- *Co-Author: Ekaterina Kornilaki, University of Crete, Greece*

Abstract:

There is a growing body of evidence on the role of grandparents (GPs) on their grandchildren's upbringing. Less is though known about educators' perceptions about the role of GPs in the education of children with Special Educational Needs (SEN). The aim of the present study is to explore educators' perceptions regarding grandparents' involvement in the education of children with SEN and their contribution to the families of these children. The participants were 72 educators in special education and inclusive education classrooms. Educators were administered a structured questionnaire based on Findler's questionnaire entailing a) demographic data, b) professional background information, c) questions about GPs involvement in the education of their SEN grandchildren, d) questions on how the school involves them in the educational process, and e) how they perceive their contribution in the families of their grandchildren. The findings suggest that teachers consider GPs an important agent in the education of children with SEN. They show a great interest in the intervention programs the school implements and attend their grandchildren's school progress. Educators consider GPs involvement central to the functioning of the family as they provide care and entertainment to their SEN grandchild. However, educators acknowledge that the school system has overlooked their contribution and has to make good use of their interest and skills. Professional and policy makers should recognize and respect grandparents' role and provide them with knowledge, skills and encouragement in order to actively engage them in the educational process.

POSTER 6: Autism Spectrum Disorders and Mothers adaptation, involvement and relationships: two case studies

- *Presenter: Maria Markodimitraki, University of Crete, Greece*
- *Co-Authors: Maria Kypriotaki, University of Crete, Greece*

Abstract:

Autism Spectrum Disorder is a developmental disorder which involves impairments in social

communication and restricted repetitive behaviors (APA, 2013). Parents of children with ASD face various challenges and have multifaced needs due to their children?s social and communicative deficits and they often experience prejudice and social isolation. The aim of the present qualitative study is to explore mothers? feelings, adaptation and involvement in child care and also their relationships with the family members and social network. Qualitative research project was conducted using a purposing sampling technique and semi-structured interviews (ten interviews in each case study) to examine the experience of mothers of children with ASD from child?s birth until now. The experiences of the mothers included their initial feelings and reactions after the diagnosis and in different ages of the child, perceptions towards disability, mother-child relationship, mother-father relationship, relationships with other siblings, grandparents and other members of the extended family, interventions and relationship with the specialists, educators and with social network, concerns about the child?s future etc.). Results showed that mothers despite the initial devastating feelings, are involved in child care and intervention/educational program. Mothers also consider the relationships with family members and social network as crucial, suggesting that they often experience social isolation because of child?s characteristics that impede communication. Obstacles to mothers? well-being are discussed and recommendations for future research are provided.

POSTER 7: The Role of Lecturers and the Inclusive Education: Students with Disabilities in Higher Education

- *Presenter: Victor Manuel Molina, University of Seville, Spain*
- *Co-Authors: Victor Hugo Perera Rodríguez, Almudena Cotán Fernández, Noelia Melero Aguilar, University of Seville, Spain*

Abstract:

Theoretical Background: In recent years, advances have been made in disability policy at Spanish universities, especially in terms of creating more inclusive learning environments. Nevertheless, while efforts to foster inclusion at the tertiary level – and the growing number of students with disabilities at university – are clear signs of progress, serious barriers to full participation in learning still exist. The research shows that university responses to diversity tend to be reactive, not proactive, (Riddell, Tinklin & Wilson, 2005); as a result, higher education (HE) environments can be especially disabling (Borland & James, 1999; Reindal, 1995; Tinklin & Hall, 1999). It has been demonstrated that the performance of students with disabilities is closely linked to the good will of university faculty and staff (Fuller, Healey, Bradley & Hall, 2004). Lectures are key players when it comes to helping or hindering students throughout the teaching/learning process.

Research Questions: How lecturers respond to students with disabilities? Do lecturers tend to build learning bridges or raise learning barriers when working with students with disabilities?
Methods: Biographical-narrative methodology was employed. This research analysed the results differentiating by fields of knowledge. The research team was multidisciplinary. The research was conducted in two phases: discussion groups along with individual oral/written interviews were set up with 44 students with disabilities and mini life stories were completed for 16 students who participated in the first stage. The study group consisted of students with disabilities enrolled during the 2009/10 academic year.
Results: Faculty do not always display appropriate attitudes towards students with disabilities. Study participants speak of them turning their backs on their problems – or behaving in an awkward manner. In many cases, it seems lecturers feel that curricular adaptations of any kind are a form of favouritism. Positive attitudes, however, often depend almost entirely on the good will of faculty and – although well received by students – are hard to come by. As the participants themselves suggest, this study confirms that good teaching practices not only benefit students with disabilities but the student body as a whole. In this sense, inclusive curricula provide new opportunities for all students. A general coincidence has been the lack of training on behalf of lecturers to adequately attend disabled students, and the need to cover this shortage. This can become a primary barrier and is more often due to deficient faculty training than to inappropriate attitudes on the part of lecturers.
Interpretation of findings: Based on the research presented here we can conclude that more barriers than bridges exist. That said, students do report receiving a good deal of support from their lecturers – although almost exclusively in a spirit of good will; when lecturers do help, however, it tends to have a very positive impact on students' academic performance.

POSTER 8: Inclusive Education in Higher Education? Hurdles & Help as Perceived By University Students Disabilities

- *Presenter: Anabel Morina, University of Seville, Spain*
- *Co-Author: Beatriz Morgado, University of Seville, Spain*

Abstract:

Theoretical Background: The present study provides partial findings from research currently underway at the University of Seville . As Konur (2006) points out, a growing number of young men and women with disabilities aspire to join the university community; paradoxically, however, the university is one of the least inclusive of all educational environments. The social model of disability, which we endorse, conceives of the problem from a sociopolitical perspective (Barton, 1996; Oliver, 1990). The social model considers practice, attitudes and policies within the social context as underpinnings for barriers and/or aids which either hinder or

help disabled individuals to access and participate in education processes within different environments. Focusing our attention on the inclusive education model, we can define inclusion as a process which fosters participation and a sense of belonging across student populations. Hence, social and educational inclusion can be seen as a way of life, a unique way of behaving and participating in society, of understanding others.

Research Questions: How does the university, as an institution, open doors and/or put hurdles in the way of students with special needs? To what extent do educational, attitudinal and relational processes in university classrooms affect participation and learning curves?

Method: The present study adopts a biographic-narrative methods are employed to give shape to a series of life stories. A wide range of data gathering techniques were used, including discussion groups, in-depth interviews, classroom observation sessions, photographs, biograms, etc. Data analysis was carried out in two phases. In the first, the focus was on individual life stories. The second phase involved applying comparative data analysis methods to transcriptions of documents generated using aforementioned methods, in line with Miles & Huberman (1994). Maxqda10 data analysis software was the tool of choice.

Results: Results will be discussed with the following questions as a backdrop: Is the University inclusive? Are university classrooms inclusive? On one hand, we will analyze institutional barriers and aids, as perceived by the students themselves. Architectural and structural hurdles, infrastructures and other spaces will be assessed here. Finally, we will take a closer look at disabled student expectations with respect to their conception of the ideal university. In order to reach Objective 2 the following question must be addressed: What are our disabled students' classrooms like? To this end, a classroom profile will be created based on 3 key factors: - Attitude of the professor(s) - Educational projects/programs - Peer attitudes

Interpretation of findings: Is the University of Seville an institution that opens or closes its doors to students with disabilities? Based on the analysis in the previous section, a number of conclusions can be reached. The first and foremost is the fact that the students coincided in their opinions, independently of the disability they might have and the courses studied, both when identifying help and barriers. Having said that, the number of barriers identified surpassed the help. In other words, the participants recognize that on occasion, they have received aids that has facilitated their inclusion; however, they state that there are so many obstacles that it translates into daily hindrances for their learning process.

POSTER 9: Supporting students with autism spectrum disorder in their transition into adulthood: assessment of adaptive skills

- *Presenter: Dieter Baeyens, KU Leuven, Belgium*
- *Inge Schietecatte, Thomas More UC, Belgium*
- *Co-Authors: Ilse Noens, KU Leuven, Belgium*
  Wim Tops, Groningen University, Belgium
  Dieter Baeyens, KU Leuven, Belgium

Abstract:

Theoretical background: Despite good intellectual abilities, high-functioning young adults with autism spectrum disorder (ASD) are at risk for not completing postsecondary education, as well as for poor employment (Mahan & Kozlowski, 2011; Shattuck et al., 2012). Chances for academic and occupational success are increased through a carefully planned transition to postsecondary education and/or employment (Roberts, 2012; Van Bergeijk, Klin, & Volkmar, 2008). This requires a thorough assessment of strengths and weaknesses of adaptive skills. Existing questionnaires on adaptive skills are often only validated up until the age of 18 years or are specifically developed for ASD with lower intellectual abilities which leads to ceiling effects in high-functioning adults with ASD. As such, our knowledge about the latter group's specific strengths and weaknesses falls short. Research questions: We set out to determine the specific strengths and weaknesses in adaptive skills of high-functioning young adults with ASD across the transition to postsecondary education or employment. Based on this profile, we want to develop an age-appropriate self-report questionnaire on adaptive skills. Methods: Firstly, a literature study and interviews with students with ASD as well as with their parents, student counselors, teachers, and job coaches, revealed 323 behaviours, reflecting relevant adaptive skills for high-functioning young adults with ASD, such as social communicative skills (e.g. 'I ask help when I need it.') problem solving skills (e.g. 'I remain calm in a stressful situation.'), and self-advocacy skills (e.g. 'I get to a new location by myself.'). Secondly, the presence/severity of these 323 behaviours were rated on a 4 point Likert scale by 123 respondents between the ages of 16 and 25 years old (high school students, bachelor students, employees, and unemployed). Using factor analysis, the underlying structure of these behaviours was determined and a final questionnaire, ADAPTI, was constructed. Thirdly, the ADAPTI questionnaire was validated in a sample of 900 young adults, between the ages of 16 and 25 years old. Results: Data are currently being analyzed and will be presented at the conference. Interpretation of findings: In order to support high-functioning young adults with ASD in their transition into adulthood, assessment is an essential first step. The ADAPTI

questionnaire will enable us to gain insight into the strengths and weaknesses of adaptive skills in the domain of postsecondary education and employment.

POSTER 10: The influence of visual stimulus properties on test performance in a non-symbolic comparison task

- *Presenter: Esther Slot, University of Utrecht, Netherlands*
- *Co-Authors: Ilona Friso-van den Bos, Evelyn H. Kroesbergen, University of Utrecht, Netherlands*

Abstract:

Background: The validity of non-symbolic comparison tasks has been a point of discussion. It has been suggested that visual parameters might influence the relationship between approximate number system (ANS) and math. Most researchers have therefore attempted to control for visual parameters when measuring ANS, such as dot size, density and surface array. However, it was argued recently that this method is insufficient, because people tend to integrate multiple visual cues when judging number. With that in mind, no special mechanism could exist (ANS) that processes non-symbolic number independently of visual cues. This finding challenges the validity of existing non-symbolic (dot) comparison tasks. Therefore, the current study has examined to what extent non-symbolic comparison may rely on an ANS and how this relates to mathematical competence.

Research question: To what extent is non-symbolic comparison in primary school children with different levels of mathematical competence determined by ANS, non-numerical parameters, or a mixture of both?

Methods: A non-symbolic comparison task (0-100) was developed in MATLAB. Stimuli were generated using the program script of Gebuis and Reynvoet (2012). The following visual stimuli were manipulated in the task: (a) convex hull (smallest contour around the dot array), (b) density (aggregate surface divided by convex hull), (c) aggregate surface, and (d) average diameter. This resulted in three tasks of respectively 28, 28 and 30 trials (one trial consisted of two consecutively presented dot arrays). Four different ratios were used: 0,63; 0,75, 0,88 and 1. Trials within tasks were fully congruent with number, fully incongruent with number, or partially congruent with number.

Results: Data were gathered in a large-scale national study (n = 500) and were analyzed by using a repeated-measures anova. The answer to the research question will be addressed in the poster presentation. Importantly, results of the current study will have a major impact on the validity of earlier research on the relation between ANS and math achievement. Moreover, our research might contribute to the current discussion on the role of non-numerical parameters by

clarifying how and to what extent they interfere with numerical stimuli in non-symbolic comparison tasks.

POSTER 11: The progress of reading and writing of the young deaf pupils in bilingual classroom: the conditions promoting the apprenticeships

• *Edyta Tominska, University of Geneva, Switzerland*

Abstract:

This proposition shows the progress of the young deaf learners in literacy knowledge assessment at the beginning and the end of a school year, in a specialized bilingual French/LSF classroom setting. Our theoretical approach is placed in the fields of both educational sciences and deaf studies, has multiple theoretical roots. It is based on literacy practices introduced in bilingual classrooms for deaf children, the rooted concepts of bilingual programs in the education of these children with concepts from the field of emergent literacy studies in the general population and, among others, from the field of didactic microgenetic studies. It also includes bilingualism in deaf children and its multimodal characteristics, observed through classroom interactions. Our research has a qualitative, comprehensive approach, aiming at the following questions: How the children progress during one school year concerning the lexical and sublexical components of literacy knowledge regarding the assessment results? What do teachers and pupils do to understand each other about these components in the classroom setting? How does this interactive learning process promote the children acquisition of these components and their entry in the literacy world? The microgenetic analyses focused on the progressive construction of a Zone of common meaning (ZCM) between teachers and students, constructed around components of literacy knowledge (e.g., letter knowledge, lexical knowledge, syntactical knowledge, narrative knowledge). The video data were completed by the pupils' individual assessments of their literacy skills in the beginning and the end of the school year. In this proposition we focus on these assessments results then we discuss the joint construction of a ZCM inside which we observe shared understandings about the storybook negotiated and constructed by the partners.The assessment results and the interactional analysis in a classroom situation focus on conditions which promote good learning for the deaf children involved in this bilingual stream classroom. These conditions are connected to the complex didactic situation implying several components of the literacy knowledge, in the joint construction of a ZCM, but also in the use of two languages which allow the wide linguistic development of the pupils. This bilingual situation points out all the resources which are needed for the children to understand their partners and to be understood. Some organizational aspects have also to be underlined: working in small

groups with two teachers (one deaf with hearing one) and offering interactive ways of guiding the pupils by allowing them to play an active role in the construction of their literacy knowledge.

POSTER 12: Autism Spectrum Disorders in higher education; Analysis of students' cognitive, metacognitive and personality profiles

- *Presenter: Dieter Baeyens, KU Leuven, Belgium*
- *Wim Tops, Groningen University, Belgium*
- *Co-Authors: Ilse Noens, KU Leuven, Belgium*
  Dieter Baeyens, KU Leuven, Belgium

Abstract:

Theoretical background: An increasing number of students with ASD enter higher education, most likely due to better assessment, guidance and remediation in primary and secondary education. Effective support services for helping high-functioning adolescents with ASD to transition smoothly from secondary education to higher education are lacking in education, jeopardizing the academic outcome of this group. As a result, there is a great need for clarification, guidelines, and regulations. Research questions: A first goal of this study was the development of a theoretical framework for the guidance of students with autism in higher education. A second goal was to get better insights in the cognitive, metacognitive and personality profiles of students with ASD starting in their first year of higher education. Methods: 27 first bachelor students with ASD participated in this study, as well as 52 students with no known neurological or functional deficiencies. We first focused on the cognitive functioning (IQ, language, memory, EF,…). We also investigated a range of academic skills such as reading comprehension and composition writing. Next, we administered personality and study strategies inventories to get better insights in the metacognitive and personality profile of students with autism. Results: First bachelor students with ASD obtained higher scores on an intelligence test than control students. Especially fluid IQ-scores were higher. Also short and long term memory skills were higher in the ASD group than in the control group. Students with ASD scored lower on word reading (both words and pseudowords) but they were as good as the control student on reading comprehension. As for the study skills inventory, students with ASD have poorer study techniques and study skills than their peers without ASD. Finally, students with ASD had a specific personality profile: students with ASD obtained lower scores for extraversion, openness, and agreeableness than control students. Interpretation of findings Students with ASD who enter higher education are a selective group of high functioning adults with ASD. Their cognitive profile shows particular strengths. Nevertheless, we believe to have pointed out specific challenges to for students with ASD in higher education that can hopefully lead to better

guidelines en regulations for these students. Implications for psycho-education and special arrangements in higher education for students with ASD are discussed.

POSTER 13: School inclusion of students with behavioural disorders

- *Presenter: Angela Wyder, Interkantonale Hochschule für Heilpädagogik, Switzerland*
- *Co-Authors: Margaretha Florin & Annette Lütolf Belet, Interkantonale Hochschule für Heilpädagogik, Switzerland*

Abstract:

The key problem of school inclusion of students with behavioural disorders is how to teach in a way that students can learn without disturbing the lessons. It is therefore the aim of this study to identify a teaching framework which supports this integration.

The following research questions are pursued within the framework of a quantitative design: Which didactics and classroom management techniques are used? Which didactics and classroom management techniques promote on-task behaviour and minimise disruptive behaviour?

The study includes twenty primary school classes. In each class we focus on the teacher and two students with behavioural disorders. The data is collected by means of systematic classroom observations in eighty lessons with the time-sampling method.

Our results lead to a description of a teaching framework and relationship between student behaviour and teaching framework. Didactics are described as teaching methods, social arrangements, differentiation and learning process support. Classroom management is characterised by control, lesson structure, attitude, strategies of reinforcement of positive behaviour and interventions of disruptive behaviour. The behaviour of students is classified according to three categories: on-task, disruptive and off-task, passive behaviour. Multinomial logistic regression showed that didactical framework, as well as issues of classroom management techniques, are significant as predictors of student behaviour. Our findings indicate the importance of principles of inclusive teaching and of preventive classroom management.

POSTER 14: Cognitive training improve an ability to understand emotional facial expressions in children with PPD

- *Hajime Yoshida, Ritsumeikan University, Japan*
- *Co-Author: Eri Tukamoto*

Abstract:

Introduction: Children with pervasive developmental disorders (PDD) are characterized primaly by qualitative impairments in social interaction. One of the most evident features in social impairment involves deficient communication via emotional facial expressions (Hobson, 1993). Recent investigation suggested that impairments of socal facial expressions could be derived from weak activity of so called social brain centered on superior temporal sulcus or its adjacent regions (Sato et al., 2012). Then, it could be expected that ability to understand facial expressions in children with PDD might be improved if we could activate their frontal lobe including superior temporal sulcus. Kawashima et al. (2005) found that cognitive tasks such as reading aloud and performing easy caluculation activated association cortices by using fMRI. Based on these findings, they gave cognitive training senile dementia using these tasks for half a year, and demonstrated improvement in function of frontal lobe for the senile dementia. From these previous studies, we hypothesized in this study that cognitive training using these tasks would be effective in understanding facial expressions in children with PDD. Method Participants: Five high school students partipated to this training. Their mean age was 13.4. Materials: We used the materials of reading aloud and problems of addition and subtraction which were made of investigators of Ritsumeikan University including all of us. Procedure: The training session was conducted in their school individually for about 10 minutes in 2-4 days a week. The task of readiing aloud in a sesseion was to read aloud Japanese sentences for about 5 minutes. The task of performing simple arithmetic was to solve 10 addition or subtraction problems with two or three digits. When the participant gave wrong answers, the experimenter promted to solve the problems again. Because of simple problems, he or she was able to solve the problems correctly by just this cue. Assessment: Three kinds of assessment were individuallu given before and after cognitive training. The first was FAB to assess function of frontal lobe at bedside (Dubois et al., 2000), which was constituted of six sub-items. The second was to test understanding of emotional facial expressions. To assess ability of understanding facial expressions, a total of 20 pictures (happiness, sadness, fear, and neutral were five, respectively) were selected from images by Langs et al. (2008). The participant was asked to classify each picture into one of four emotions presented on a monitor. The last was to test general intelligence (Kyoto Univ. NX9-15). Results All children indicated improvement in FAB score from pre-test (mean=11.6,) to post-test (mean=14.8), which suggested that their function of frontal lobe was activated by the training. They also showed improvement in

intelligence test from pre- (mean=37.6) to post-test (mean=61.4). Ability to understand facial expressions also increased in four out of five children from pre- (mean=13.6) to post-test (mean=15.8). Discussion These results suggested that this type of cognitive training would be effective tool for improving social interaction in children with PDD.

4. Parallel Session IV: 12:45 - 14:15

Symposium 4: (Room: KOL-F-117)

Liesen & Venetz: Three views on the Quantitative Analysis of Single-Case Data

1. Manolov: *Reflections on single-case data analysis*
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Symposium 4: Three Views on the Quantitative Analysis of Single-Case Data (Room: KOL-F-117)

- *Chairs: Christian Liesen & Martin Venetz, Hochschule für Heilpädagogik Zürich, Switzerland*
- *Discussant: Patrick Onghena, KU Leuven, Belgium*

Abstract:

The last decade has seen a notably increased interest in employing single-case studies for special education research (e.g. Horner et al. 2005; Tankersley et al. 2008; Cakiroglu 2012; Horner et al. 2012). Examinations of the rationale for single-subject research and its methodological underpinnings go back some time (see Hersen & Barlow 1976 for an example) but in 2010, What Works Clearinghouse published evidence standards for single-case designs (Kratochwill et al. 2010, see also Kratochwill & Levin 2010). Today, not least with the WWC synthesis, it is generally accepted that single-subject research can make valid contributions to the evidence base.

For special educational research, single-case studies are of particular interest for two main reasons. Firstly, sample sizes in this field are often very small. Secondly, special education provision is commonly aimed at a specific individual. It is more or less natural for the field to take interest in the effectiveness of interventions in specific, single cases (cf. Dyson 2001 for a European perspective, Singer 2005 for one from the U.S.; the recognition that research can be conducted appropriately is, however, still developing).

Single-case designs depend on data that is continously gathered over time under different conditions. The symposium will bring together three views on how single-case data should be analyzed. As mentioned, there is now considerable agreement about the validity of different single-case research designs such as AB, Changing Criterion (CCD), Alternating Treatment (ATD) or Multiple Baseline Design (MBD), to name a few. Conversely, different strategies for reasonably dealing with the data have been proposed: As a matter of fact, the better part of the literature revolves around this issue (for an exemplification see, again, Horner et al. 2012, in this case advocating the assessment of effect size in single-case research).

It is paramount for special educational research to explore the cogent analysis of single-case data from different angles in order to move forward, complementing what is known about the study designs. The symposium will mark at least three waypoints for this task.

Paper 1: Reflections on single-case data analysis

• *Rumen Manolov, University of Barcelona, Spain*

Abstract:

The analysis of data gathered via single-case designs is an issue on which consensus is yet to be reached. In the last decade a considerable amount of research has been dedicated to proposing, testing, and modifying a variety of analytical procedures aimed to quantify aspects such as change in level and change in slope after the intervention, while also taking into account the possibility that data might present a baseline trend or autocorrelation. In the latest decade, analytical techniques have been discussed in terms of their advantages and drawbacks in a series of articles and journal special issues dedicated to the topic. These techniques have different characteristics, as some procedures take benefit from the randomization that can be present in the design, while others are based on regression or hierarchical linear models, a third type estimates a standardized mean difference, a fourth type quantifies the nonoverlap of data, a fifth type considers the likelihood of the outcome in case the intervention were actually ineffective, etc.

In this part of the symposium we will offer a brief review of some of these techniques that we consider especially worth mentioning in order to point at their most salient features and to offer recommendations for applied researchers. Given the content of the talks of the other participants in the symposium (i.e., regression analysis and Bayesian statistics), the present talk will put somewhat more emphasis on simpler procedures, related to quantifications of overlap (e.g., the Nonoverlap of all pairs, Tau-U), and change in level and in slope (e.g., the Slope and Level Change procedure), apart from mentioning the currently ongoing work in developing a standardized mean difference index specific to single-case designs. We will also mention some of the freely available (i.e., open source) existing resources for applying several analytical techniques, given that the practical implementation should be considered alongside the theoretical advantages of the techniques.

For structuring the conclusions of the review of analytical techniques, these conclusions will be organized according to the following advisable or ideal features of:

1) The method should reflect the aim of the analysis;

2) The output of the analysis should be easy to interpret;

3) The analysis should be easy to compute;

4) The method of analysis must take into account design requirements and data assumptions;

5) Select a method based on evidence of performance with typical SCED data.

Nevertheless, these are only tentative criteria intended to help practitioners and applied researchers to choose analytical procedures among the existing alternatives, until a commonly

accepted method is established as a gold standard. The debate is still open and theoretically-founded and empirically-supported arguments are welcome for making possible the progress in the field and for closing the gap between research and practice.

Paper 2: Which technique is appropriate for analyzing single-case AB designs? A Monte-Carlo study on the test-power and alpha error probability of regression and randomization tests for analyzing single-case data

• *Jürgen Wilbert, University of Potsdam, Germany*

Abstract:

Single-case designs have become a major source for promoting scientific progress in the field of special education research. In the past years, primarily descriptive and visual analyzing techniques have been applied to data or sets of data to draw conclusions about changes between baseline and interventions phases. Although these techniques provide an important first impression of the existence of certain effects within the data, they are highly prone to misinterpretations. Visual inspections lack replicability and objectivity. Simple descriptive indicators – like percent of non-overlapping data – have been shown to be highly frail in cases of outliers and trends within the data. As a solution to these problems, several inferential statistical tests have been proposed.

Two promising analyzing techniques are piecewise-regression models and randomization tests. The present study was conducted to investigate the usability of these tests (in terms of test power and alpha error probability) in different data structures. In particular, we focused on auto-correlated data (i.e. lag-1 autocorrelations), different kinds and sizes of intervention effects (level-changes and slope-changes), measurement reliability, extreme outliers, and varying measurement-times (in single and multiple-baseline designs). We used a Monte-Carlo approach to investigate this question. Within this design, several artificial datasets were generated under varying circumstances and afterwards analyzed using a piecewise-regression model and a randomization test. Results showed a high usability of the regression based approach with a high test power even in extreme conditions. Alpha error rates, however, rose slightly in case of extreme conditions. Randomization tests were robust against linear trends and a high level of noise within the data but showed a stark decrease of test-power when a continuous increase during the B-phase (a slope effect) was present in the data. As a conclusion, a power test for single-case data analyses is proposed and presented.

Paper 3: Practical Bayesian hypothesis testing for single subject designs

• *Richard Morey, University of Groningen, Netherlands*

Abstract:

Single subject designs are useful when evaluating the effectiveness of an intervention on behavior for an individual. Traditionally, single-subject data are analyzed using significance tests. Although significance testing's "accept" or "reject" logic allows for a control of Type I error rate, significance testing is not designed to quantify evidence.

For this, Bayesian methods are required. De Vries and Morey (2013) introduced Bayesian time-series t tests which allow for the quantification of the evidence for or against an intervention effect. They argue that Bayesian tests are more appropriate in scientific situations where the target of inference is weighing the evidence regarding the existence of an effect, rather than making dichotomous accept / reject decisions with fixed Type I error rate. The talk will outline these technical advances and show how to put them into practice using software.

Paper Session 5 (Room: KO2-F-174)

PAPER 5.1: Multiprofessional activity in special education schools: information interactions and team meetings to design students' IEP.

• *Roland Emery; University of Geneva, Switzerland*

Abstract:

In special education schools including educational and therapeutic professions, multiprofessional collaboration is presented as an obvious fact to meet the needs of pupils with special needs (Pelletier, Tétreault & Vincent, 2005; Todd, 2014). Multiprofessional collaboration is often defined as a set of interdependent interactions towards a common goal (D'Amour, Sicotte & Lévy, 1999). This prescription forgets the importance of power stakes and negotiations in organizations. The articulation of professional aims and actions is not obvious. Overlapping between professions creates uncertainty and negotiation in actual practices. Although the shift towards inclusive schooling, tensions between educational perspective and the medicalization in school can be observed (Harwood & McMahon, 2014). Based on a situated action approach (Lave, 1988), partly conceptualized for special education practices by Pelgrims (2009), we study the flow of individual and collective activity of 8 professionals during 6 month to design a student's Individualized Education Program (IEP). Our research aims to describe the multiprofessional activity unfolded by the members of a team to design an IEP. It examines the zones of complementarities, convergences and divergences in the meanings granted to this activity by the various professional. We also examine to what extent this activity is typical of the orientation of new students in this special education school. Documents (professional assessments, personal notes,…) have been first collected. Then two narrative interviews with each of the 8 professionals have been conducted in order to identify micro-situations that happened during this period about IEP (e.g., team meetings about the student, discussions with student's parents, process of writing the IEP, informal interactions,…). Professionals were asked about their actual activity during IEP designing, in order to grasp their interpretations and to identify multiprofesional activity. Our interview's data have been submitted to qualitative content analysis. Results show the importance of the ongoing links during IEP designing between many informal interactions and formal team meetings. These informal interactions occur during the period of observation and decision for IEP both outside with professional partners of the special education school, and inside between team members. In articulation, formal team meetings are devoted to exchange informations collected in the

informal interactions in order to decide and formalize the IEP. Our findings show the gap between the prescriptive work how to design an IEP and actual activity.

PAPER 5.2: Inclusive education in Switzerland - Formal frames and current practice.

- *Mathias Mejeh; Pädagogische Hochschule Fachhochschule Nordwestschweiz Windisch, Switzerland*

Abstract:

In recent years Inclusive Education is a highly discussed issue all over the world. However, there also exist vague ideas, various educational systems and a diverse current practice and changes in such educational systems are rather difficult. In the last decade this topic was also controversially discussed in Switzerland (e.g. Kronig, 2007), in particular since the responsible Swiss cantons had to elaborate concepts of inclusion. As in the canton of Soleure these concepts are still pending, the Centre for Special Needs Education at Grenchen initiated a project to design, implement and evaluate a concept of inclusive education that includes rapports between existing formal structures (e.g. Mejeh & Nenniger, 2011). In addition to psychological theories, the theoretical frame also includes neo-institutionalism (e.g. Meyer & Rowan, 1977) and ecological systems theory (Bronfenbrenner, 1981). Research is mainly dedicated to the extent stakeholders complete or compete given legal and institutional rooms. Analyses are based on legal and administrative documents and on a survey of 136 persons concerned with special education (e.g. parents, teachers, therapists and psychologists). Instruments were an online-questionnaire covering the topics Orientation, Diagnostics, Finance, Institutions, Law and Training and, for expert-administrators, a structured interview with about 25 questions on the same issues. Quality criteria were for the documents objective and logical coherence, for the questionnaire exhaustion and pithiness of the extracted structures. Parametrisation of extracted structures (e.g. Degree-, Closeness-Centrality) and data analysis based on topological network-models and sampling methods. Results revealed a good quality of instruments: Networks normally covered about 82% of the initial structures and 65% achieve significant pithiness. Findings show that the characteristic perception appearing in the stakeholders' pithy structures and thus, the degree they complete or compete the given institutional frame, depends on their particular perspective (e.g. parents, etc.) and hereby partly opposes the institutional standards. Outcomes about properties of networks comprising the perspectives of all stakeholders highlight a.o. the differential importance of teachers in inclusive settings. In sum the results are apt to give suitable hints for a successful implementation of inclusive educational systems.

Paper Session 6 (Room: KO2-F-175)

PAPER 6.1: Accomodation for students with ADHD in postsecondary education: A perfect match with functional and participation problems?

- *Presenter:* *Dieter Baeyens, KU Leuven, Belgium*
- *Co-Authors:* *Dorien Jansen, Thomas More UC, Belgium*
  Katja Petry, KU Leuven, Belgium

Abstract:

Theoretical background: As a neurodevelopmental disorder, the phenomenology of ADHD changes across the lifespan but remains associated with impairment in various domains of functioning (Schmitt & Petermann, 2008). As a group, students with ADHD show higher drop-out rates in school, are more likely to repeat years and are less likely to attend higher levels of education (Weyandt & DuPaul, 2008). However the functional problems associated with this condition are characterized by high levels of heterogeneity (Schmitt & Petermann, 2008). A complete and structured overview of functional and participation problems of ADHD in young adults (in higher education), is not yet available. As a result the selection and implementation of accommodations for these students is often made on an intuitive basis. Research questions: In this study, we examined which functional and participation problems young adults with ADHD experience in everyday life and in higher education in particular. Next, we explored how the restrictive influence of the environment, from which these problems arise, can be managed by implementing effective accommodations.

Methods: We reviewed literature to map the functional and participation problems of young adults with ADHD using the International Classification of Functioning, Disability and Health (ICF; WHO, 2001). These functional and participation problems were then linked to accommodations at a meeting with Flemish academic and clinical experts in ADHD. The perceived effectiveness of each specific combination of functional/participation problems and existing accommodations was measured by a questionnaire which was completed by 91 students with ADHD (aged between 18 and 25 years) and 31 student mentors. Finally, we determined successful implementation strategies of effective accommodations in higher education settings based on 25 interviews with students with ASD and their mentors.

Results and interpretation of findings: Based on the literature review and the questionnaire findings, we can conclude that young adults with ADHD experience multiple functional and participation problems in daily life. A set of 17 problems was selected to be highly relevant for higher education. Reports on the frequency of these 17 education-specific problems were

similar for students with ADHD and their mentors, reflecting good knowledge of the latter group on the age-specific phenomenology of ADHD. For most of these problems a set of (perceived) effective accommodations could be determined. Yet some highly frequent problems (e.g., daydreaming) could not be managed by accommodations and need additional, professional help. Interviews revealed that mentors should pay considerable attention to the consequential validity of the implementation of accommodations (e.g., fear of stigma).

PAPER 6.2 : Accomodations in higher education for young adults with ASD

- *Presenter:* *Dorien Jansen, Thomas More UC, Belgium*
- *Co-Authors:* *Katja Petry, KU Leuven, Belgium*
  Dieter Baeyens, KU Leuven, Belgium

Abstract:

Theoretical background: At least 2% of students in higher education register with a special educational need (SEN; Vickers, 2010). One of the largest groups of students with SEN are students with an Autism Spectrum Disorder (ASD). The academic career of these students is characterized by higher levels of drop-out and lower success rates compared with typically developing controls (Levy & Perry, 2011). The Flemish Education Council (2009) hypothesized that the effect of the current one-size-fits-all approach to accommodations for students with SEN is insufficient. Research questions: In this study, we examined which functional and participation problems students with ASD experience in higher education. Next, we explored how the restrictive influence of the environment, from which these problems arise, can be managed by implementing effective accommodations. Methods: Supported by the Education Development Fund of KU Leuven, we reviewed literature to map the functional and participation problems of young adults with ASD using the International Classification of Functioning, Disability and Health as a framework (ICF; WHO, 2001). These functional and participation problems were then linked to accommodations at a meeting with Flemish academic and clinical experts in ASD. The perceived effectiveness of each specific combination of functional/participation problems and existing accommodations was measured by a questionnaire which was completed by 30 students with ASD (aged between 18 and 25 years) and 31 student mentors. Finally, we mapped successful implementation strategies of effective accommodations in higher education settings based on 6 interviews with students with ASD and 2 focus groups with student mentors (n=12). Results and interpretation of findings: This study results in a list of accommodations which are associated with specific ICF categories and are perceived to be effective by students with ASD and their mentors. In addition to this list, current findings lead to guidelines for selecting, assigning and implementing accommodations for students with ASD.

PAPER 6.3 : Occupational careers: What influences them? Midterm occupational pathways of young professionals with Swiss Federal VET Certificate.

- *Presenter:* *Marlise Kammermann, Swiss Federal Institute for Vocational Education and Training (SFIVET), Switzerland*
- *Co-Authors:* *Lars Balzer, Swiss Federal Institute for Vocational Education and Training (SFIVET), Switzerland*
  Achim Hättich, Hochschule für Heilpädagogik, Switzerland

Abstract:

Theoretical background: School-to-work transitions in modern societies are characterised by diversity and complexity (OECD, 2000; Walther and Plug; 2006). Apprenticeships have been seen as a specific institutional form of vocational education and training (VET), which fosters young peoples' employability and ensures smooth school-to-work pathways (Stalder, 2012). More specifically, apprenticeships have been seen as an appropriate means to integrate learners with lower school achievements in the labour market (Kammermann, Hübscher, and Scharnhorst, 2009). In Switzerland, there are two types of apprenticeships: three- to four-year apprenticeships for the better achieving youth, which lead to a Federal VET Diploma; and the two-year apprenticeships for the lower achieving youth that lead to a Federal VET Certificate. Both types of apprenticeship programmes are standardised at national level. Permeability between the two-year and the three- or four-year programmes is ensured within occupational groups by following the principle of potential upward mobility. Research questions: In our paper, we will discuss occupational careers after graduation of a two-year apprenticeship. We will address the following issues: 1) Mid- to longterm employment and/or further training 2) Predictors for precarious occupational pathways Data and measures Young professionals with Federal VET Certificate are studied in a longitudinal perspective to address the core issues described above. The data are taken from the Basic VET Certificate-Career Study. This longitudinal study follows the pathways of apprentices who graduated from the first two-year apprenticeships with Federal VET Certificate in the retail sales and hotel sector in 2007. Up to now, four survey waves were conducted: at the end of training (time 1), 1.5 years after graduation (time 2), 2.5 years after graduation (time 3) and 5 years after graduation (time 4). The sample used in our analyses consists of 123 apprentices. Results Issue 1: Our results show that, 5 years after graduation, almost 90% of the young professionals were in employment or further education; with employees by the majority working full time with permanent work contracts. Issue 2: Young professionals with no confirmed job or further training opportunity at the end of training are more likely to follow precarious pathways. This group is characterized be a variety of factors, including conditions at work and at school during VET. Conclusions: In

general, it can be concluded that the two-year apprenticeship fosters a good integration into labour market as well as enrolment in and completion of further training. Precarious pathways are likely to become apparent already at the end of training.

5. Keynote Speech: Prof. Dr. Peter de Jong: 14:30 – 15:30 (Room: KOL-F-117)

Dyslexia – From Family Risk to Reading Problem

Prof. Dr. Peter F. de Jong, University of Amsterdam, Netherlands

Peter F. de Jong is professor of Education and head of the Graduate School of Child Development and Education of the University of Amsterdam. He obtained his MA in methods and statistics of Psychology at the University of Amsterdam and his PhD at the Vrije Universiteit Amsterdam. He has been an associate editor of Scientific Studies of Reading and is a member of the Board of the Dutch Dyslexia Association.
His main research interest concerns the development of basic academic skills (reading and arithmetic) and the etiology, diagnosis, prevention and treatment of learning disabilities, in particular dyslexia. Currently he is involved in projects about the development of children with a familiar risk of dyslexia, the cognitive mechanisms of reading and the enhancement of reading comprehension.

Abstract:
During the last decade multiple deficit models (MDM) have replaced single deficit explanations of developmental disorders including dyslexia. According to Pennington's MDM multiple genetic and environmental risk factors increase the liability for dyslexia. At the cognitive level, dyslexia is assumed to be caused by multiple deficits. In the current presentation results of a Dutch family risk study will be used to illustrate how family risk studies can contribute to testing and specifying the MDM. Next, an extension of the MDM – the intergenerational multiple deficit model - will be given that describes possible pathways through which parents confer liability to their children. Results will be shown to illustrate how relations between parental and children's reading skills can be used to disentangle the genetic and environmental transmission of parental reading skills.